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Cotton Industry's Debt to American Inventors

Reviewed by Speakers at Providence Meeting of Southern New England Textile Club—Large Attendance Hears Novel Program—Philip C. Wentworth, John L. Burton, R. E. Naumburg, and George Otis Draper Read Interesting Papers

THE important part that leading inventors and inventions, and particularly those identified with this country, have played in the development of the cotton textile industry was reviewed at the 113th meeting and dinner of the Southern New England Textile Club, held at the Biltmore Hotel, Providence, last Saturday afternoon. The program, which was radically different from any heretofore staged by the organization, was in charge of a committee consisting of Philip C. Wentworth, chairman, E. Russell Richardson, Frederic W. Howe and W. S. Pepperell, secretary. Heretofore the club has usually relied upon outside speakers or has confined its program to musical and vaudeville entertainment; recently a moving picture program was staged, while last Saturday's historical program, which was as ambitious and interesting as any provided at conventions of the larger trade associations, was entirely the product of members of the club.

The speakers and their subjects were as follows: "From Beginning to End," Philip C. Wentworth, treasurer National Ring Traveler Company, Providence; "Some Aspects of Textile Design," John L. Burton, agent Nashawena Mills, New Bedford; "Contribution to Spinning By A Rhode Island Man," Robert E. Naumburg, research department, Saco-Lowell Shops, Lowell; "Inventors and Their Peculiarities," George Otis Draper, vice-president Hopedale Manufacturing Company, Milford, Mass. The paper that was to have been presented by William S. Pepperell, treasurer of the Warren Manufacturing Company, Warren, R. I., on "A Parallel of Past and Present Costs," was postponed until a future meeting partly because of the desire of Mr. Pepperell to secure more complete data and also because of the unexpected length of last Saturday's program.

Considerably over 200 members and guests of the club attended the meeting, including a large number of new members. Seated at the head table with President Ezra Dixon, who presided, were the speakers and the following officers and guests of the organization: Secretary W. S. Pepperell, Frank F. Wooley, F. W. Howe, George C. Hinckley, E. Russell Richardson, John F. Reardon, Antonio Spencer, Andrew J. Currier and A. F. MacIntire. During the dinner music was furnished by the Biltmore orchestra, and A. W. Couper, the club's musical director, led community singing. Prior to the formal program President Dixon introduced A. F. MacIntire, familiarly known to many members of the club as "Sandy," and formerly agent of the Fulton Bag & Cotton Mills, Altanta, Ga. Mr. MacIntire expressed pleasure at the opportunity to greet so many of his old northern friends and won much applause by several Scotch dialect stories. In introducing Mr. Wentworth, the first speaker of the afternoon, President Dixon gave him full credit for the suggestion that resulted in the novel program for this meeting, and in recognition of the successful efforts of Mr. Wentworth and his committee he appointed him chairman of the speaking program.

Ezra Dixon, President, S. N. E. T. Club

A Note of Comedy Introduced

In introducing his paper, the American part of which was preceded by an outline sketch of textile history from prehistoric times, Mr. Wentworth acknowledged his indebtedness to "The Story of Textiles," compiled by Perry Walton for John S. Lawrence, to the Draper Corporation, the Mason Machine Works and various pamphlets. Mr. Burton created much amusement when, in introducing his paper, he also credited the Walton and Lawrence book as being the source of much of his data regarding early textile history. He explained that in preparing his paper he had carried out the committee's orders only to find that a large part of what he had prepared had been anticipated by Mr. Wentworth. He turned the laugh on Mr. Wentworth, however, when he claimed that his researches had taken him farther into the stone age than those of the former. That part of Mr. Wentworth's paper covering American inventors and inventions, and that portion of Mr. Burton's paper specifically covering the development of design are reproduced herewith, as are the greater part of the papers of Mr. Naumburg and Mr. Draper.

The March and April Meetings

Secretary Pepperell announced that for several years the officers of the club had been endeavoring to secure United States Senator Moses of New Hampshire as a speaker at one of their meetings, and that he had just received a telegram announcing that Senator Moses would speak to them on Saturday, April 25, if that was convenient to the Club. Although it had been the intention of the executive committee not to hold a meeting during April, when put to a vote those present were unanimous in their desire to have this opportunity of hearing Senator Moses. The members also voted unanimously that the program for the March meeting should be similar to that of last Saturday, including Secretary Pepperell's postponed paper and others of a similar or historical character.

From Beginning to End

By *Philip C. Wentworth*

PASSING from England to America, it was not only natural but necessary that the Colonists should immediately turn their attention to textiles. Most of the early settlers came with some knowledge of spinning and weaving, so that the textile industry began shortly after a landing was made on the "stern and rockbound coast." Hand spinning and weaving was continued up to and was practiced by our grandmothers. Spinning wheels, flax wheels and hand looms were in the homes of both the rich and the poor and relics of these days now proudly grace parlors and front halls in many residences. The approach of the Revolution served to spur on greater production and during the Revolution, the Colonists were thrown upon their own resources, with the result that the great emergency was quite successfully met. The people had clothing and the army was also supplied, although sometimes scantily. Perry Walton points out that patriotism was in vogue at Harvard College in 1768, as the senior class of that year graduated in clothing made from hand woven domestic fabrics.

The Beverly Mill

The earliest attempts at cotton manufacturing in this country were in Philadelphia and Beverly, Mass. The citizens of Essex County delight in relating that George Washington paid them a visit in 1789 at which time he was shown through the Beverly mill, and according to the Salem Mercury, which published an account of his visit, he was much impressed at the sight of an 84 spindle jenny spinning warp yarn. It is also stated that he commented on the comeliness of the young ladies working at the various machines. According to Walton, Washington made the following entry in his diary on Friday, October 30th: "After passing Beverly two miles, we came to a cotton manufactory, which seems to be carried on with spirit by the Cabots principally. In this manufactory they have the new carding and spinning

machines, one of the first supplies the work, and four of the latter, one of which spins 84 threads at one time by one person. The cotton is prepared for this machine by being first lightly drawn to a thread on a common wheel. There is another machine for doubling and twisting the thread for particular cloths. This also does many at a time. For winding the cotton from the spindles and preparing it for the warp there is a reel which expedites the work greatly. A number of looms, 15 or 16 were at work with spring shuttles, which do more than double work. In short, the whole seemed perfect and the cotton stuffs which they turn out are excellent of their kind, warp and filling, both now are of cotton." Such was Washington's understanding and description of cotton manufacturing in 1789.

Samuel Slater's Contribution

While giving full credit for the progress that had been made up to this time, to Samuel Slater is due the credit for building and putting into successful operation in the United States the Arkwright machinery, including carding and spinning. It seems only fair, however, that Eli Whitney should be mentioned in the same category because of the part he played in stimulating cotton growing.

Having been born in England in 1768, Slater began an early apprenticeship with one Jedediah Strutt, a partner of Richard Arkwright. This association allowed him to familiarize himself with the engineering aspects of Arkwright's machinery including carding and spinning and when he came to the United States, in 1789, he proved to be fully competent to reproduce these machines which began successful operation in 1793 in what is now nationally known as "The Old Slater Mill," in Pawtucket, R. I. He received his financial backing largely from Moses Brown, a rich and retired Providence merchant, It is not often spoken of, but true nevertheless, that the Slater Mill comprised a dye house, a singeing department, did calendering, etc., so that a finished yarn was turned out.

Whitney Poorly Rewarded

Eli Whitney did not get his just reward and it was not until 1800, that he received a grant of $50,000 which was about all that he ever realized for his great invention. Up to the advent of the cotton gin, Slater had been obliged to secure his cotton from French Guiana, Dutch Guiana and Haiti. It can thus be readily understood that the industry could not have grown to its present proportions without Whitney's contribution.

Machinery in Slater's time and for some years following was largely made of wood. The transformation to iron began with concentration upon the subject of men who stand out in the mind of the average mill man such as Draper, Whiting, Mason, Lowell, Danforth, Pettee, Rabbeth, Knowles, Northrop and many others. It would be impossible to enumerate the names of all who should receive credit. The accomplishments of those mentioned are generally familiar. Many American inventions have been revolutionary in character and have changed the general trend of manufacturing, namely, the loom temple, the spinning ring, the high speed spindle, ring traveler, dobby head, and last but not least the automatic loom.

The invention of the loom temple in 1816 by Ira Draper, a farmer living in Weston, Mass., was one of the early and important inventions. It was quite revolutionary in character in that it enabled the weaver to run two looms instead of one. Ira Draper was the great grandfather of the

Philip C. Wentworth who addressed the S. N. E. T. Club

present scions of the Draper family.

An American invention which has had far reaching effects was that of A. C. Arnold of Pawtucket, R. I., in 1823, the differential motion for roving frames. This was appropriated by an Englishman named Houlsworth, who had seen a model and who solicited and was granted a British patent. Nevertheless Arnold was the real inventor. In 1824 Charles Danforth invented the principle of cap spinning. This was also appropriated and patented in England by a man named Hutchinson.

Spinning Pioneers

Two men bearing the names of Addison and Stevens were granted a patent on a ring traveler in 1829, notwithstanding that John Thorp of Providence, R. I., is usually given credit for this invention, also the spinning ring. In 1831 Mr. Asell Lamphere of Killingly, Conn., was at work on a new device for spinning to supercede the throstle frame and cap spinning. Lamphere's ideas finally resulted in the ring spinning frame, and investigation shows that some of Lamphere's ideas are embodied in the frame of today.

Mr. William Mason, who later founded the Mason Machine Works, became associated with Lamphere in Killingly and contributed very largely to the early development of ring spinning. He also did much constructive work on looms and self-acting mules. Mr. Mason also appears to have realized the vital importance of the traveler and he designed and built the first machine for making ring travelers by machine methods. The traveler machine of Mason is the one used today and has come down through the years with very little change. Time does not permit of tracing in detail the development of the high speed spindle, beginning with the first patent of J. E. Atwood in 1866, but when the names of Atwood, Rabbeth, Pearl, Sawyer, Draper, Whitin and McMullen are enumerated in connection with this wonderful instrument, the tremendous amount of concentration which the great work required can readily be realized.

Prominently identified with the development of card room machinery in America are found the important names of Arnold, Pettee and Whitin and an interesting paper could be prepared upon this subject alone.

Great Weaving Inventions

To Francis Cabot Lowell, belongs the distinction of contributing much to the power driven loom in this country, which was first used in the Boston Manufacturing Company at Waltham, Mass., incorporated in 1813. The brain power contributed to weaving was quite as impressive as that centered on preparatory lines, viz., Lowell, Mason, Knowles, Crompton, Whitin, Northrop, Draper, Hutchins, Stafford and many others. Mr. Lowell is also the father of our present day mill organization as he established the departments in the factory under the overseer system.

It is a peculiar fact that the textile industry in this country and of the world for that matter, became highly developed and then a period of years was devoted to the general refinement of machinery and essentials and increasing manufacturing intensity. In the early nineties the industry was startled by the announcement of the Northrop Loom by the Draper interests of Hopedale, Mass. At the time that Mr. James Northrop made this highly important invention it is stated that he had never had the privilege of entering the weaving department of a cotton mill. However, as he is still living, he has seen his invention revolutionize the weaving of cotton cloth.

It has been mentioned that methods of textile art date far back into antiquity, that the art reached a state of development in beautiful texture and rare appearance far beyond that time which history records. It is well worth any man's time to visit the Boston Museum of Fine Arts and there examine the wonderful specimens of ancient weaving which have been herein mentioned. It will be impressed upon you that the progress of years from the ancients down to the present century, has discovered nothing new in textile products. The development of textile machinery, however, has completely changed the methods of manufacture and today the production of a single operative is equal to that which could be produced by several thousands of hands, three or four hundred years ago.

A Highly Competitive Industry

And so the textile machinery industry and the cotton manufacturing industry has grown from small beginnings to tremendous proportions largely by individual effort. The cotton industry is different today than most any industry of the country in that, as many mills as there are, there will be found individual conceptions as to management and manufacturing policies. There is probably no other line of business that subjects itself to such keen competition as that existing in the cotton goods primary markets. Yet taking one year with another it represents one of the safest of permanent investments. When this country entered the World War, the textile industry was the one great industry that was fully mobilized and ready to meet the great emergency without the addition of a single spindle or loom. It is because of the great achievements, vision, courage, tenacity and pluck of the men whom we are endeavoring to honor, that the textile industry, from such meagre beginnings has grown to a world spindleage of 157,000,000 of which 37,000,000 are in the United States of America.

Some Aspects of Textile Design

By *John L. Burton*

DESIGNING is very largely a repetition of things that have been done previously. Prevailing fashions, location and tastes of the people in different places all have a bearing on the material, design and weight of the fabric.

Within the last fifteen years, artificial silk or rayon, so-called, has been used largely for the decoration of fabrics, and as the quality has improved, the use has become more general until today there is a great scarcity of this material. Very handsome fabrics have been made from same in connection with cotton, wool and silk.

One of the troubles, from a manufacturer's point of view, to my mind is to get the correct interpretation of the converter's idea of pattern, design and construction of cloth wanted.

Another thing that I wish to call to your attention is that machinery today is built much better than it was 25, 30 or even 40 years ago. A great many people have a mistaken idea that the automatic loom, for instance, will not produce cloth as good as the ordinary common loom. Now, there has been nothing done except to improve the build of the automatic loom. As most people know, looms used to be built largely in the foundry but today this is not so. The automatic loom of today is a better built ma-

chine than the ordinary common loom Take for instance the box looms: they are better built and they have got to be in order that the different parts of the box motion, dobby and jacquard head will work properly and perform the functions for which they are designed. So it is with any automatic loom. I can speak of this knowingly as I had something to do with the early introduction of the automatic loom on the market. The cotton mill operatives were just as antagonistic to this as they were to the earlier inventions and patents. I know that I, personally, had to work days and travel nights, in order to get around to the various places and straighten out troubles which we were continually running into. That, however, is a thing of the past.

It is my personal opinion that there is no automatic loom built today but what can be run successfully. The mechanism of the automatic loom will do what it was intended to do if the operative or loom fixer will adjust it properly. I am speaking now of a bobbin-changing loom and not the shuttle-changing device. Some people have the idea that automatic looms will only weave the plainest of plain goods but I want it said here that you can run dobbies or jacquards or any other fancy goods on them; it is simply a matter of making the device do what it was designed to do.

In closing, I want to state that some of the most successful patterns are the result of accident. Some are taken from current events, such as designs of objects from King Tut's Tomb, although this did not last long. Some are from serious thought and a great deal of study. I have found the more simple designs and the best balanced cloth last the longest; the more elaborate, striking things usually pass out of style in one season.

John L. Burton who addressed the S. N. E. T. Club

Contributions by a R. I. Man

By *Robert E. Naumburg, A.B., S.B.*

AT the suggestion of Mr. Wentworth, I am going to speak to you about a man who spent most of his life in Providence, and as far as we know, all of his life in southern New England; a man who lived a century ago, and was one of the greatest contributors to the development of textile machinery; a man who deserves to rank with Arkwright, Hargraves and Eli Whitney—the great textile pioneers; a man whose name should be a household word, and yet in his native city, I venture to say that 99% of the population have never heard his name. I am going to speak to you about John Thorp of Providence, Textile Pioneer.

John Thorp lived a century ago,—at the time when the newly formed United States were struggling for existence—at a time when America was not yet a successful manufacturing country. He lived through the critical period of the War of 1812 and during the commercial struggle which followed it. He was granted nine patents on textile machinery at a time when patents were not as numerous as they are today.

His First Patent

It is well known that the city of Lowell owes its name to Francis Cabot Lowell, who brought from England the idea of the power loom, and built the first (of which we have any record) in this country in 1813. One year before this on March 28, 1812, John Thorp was granted a United States patent on his "Hand and Water Loom." We do not know whether he built this loom and if so, whether it was operated by water power. But his patent establishes the fact that he was among the first in this country to work on the problem of the power driven loom.

In 1829 Thorp obtained a patent on a narrow fabric loom. His seven other patents deal with new methods of spinning and twisting, and it is these which deserve our particular attention.

In the year 1828, Charles Danforth, of Paterson, New Jersey, applied for a patent on the process of cap-spinning. Less than six months later John Thorp, of Providence, also applied for a patent. Although Danforth was the first, and is therefore entitled to the greater credit, it is interesting to note that Danforth's construction is not in use today, while Thorp's construction, practically unchanged, has been in use on worsted machinery for almost a century.

His Rotating Cap

Six months after he was granted his patent on cap spinning with a stationary cap, he obtained another patent on cap spinning with a rotating cap. This might be called the forerunner of the Belanger system of spinning. He called it his "Running Cap Spinner." Thorp evidently wanted to reduce the drag of the yarn on the edge of the cap. Although this construction has never come into practical use, this patent is of interest because it shows that in his search for a better way to spin, John Thorp left no stone unturned.

He evidently succeeded in getting increased speeds, and on Dec. 31, 1828, he was granted a patent on the circular separator, as far as we know the first patent ever issued on a separator for use in spinning. Along with increased speed Thorp evidently found that the breakages of the yarn increased, and the same patent which shows the circular separator, also shows an ingenious arrangement to help the operative take hold of the broken end of yarn without removing the bobbin.

But John Thorp did not stop at this point. Four months later he obtained another patent showing a self-threading tubular separator for use with cap spinning.

Still another patent of John Thorp's, also granted in 1829, was his single-cam builder motion, with which he built a bobbin to be used in the shuttle of the loom. He called it an "Improvement in the manner of forming the spire (i. e. shaped like a church spire) or roll of yarn on a weaver's or shuttle bobbin."

Inventor of Ring Spinning

The outstanding achievement of John Thorp, the one for which he deserves to be remembered, is his invention of ring spinning. Whatever claims other inventors may have to the power loom and to cap spinning, John Thorp is undoubtedly entitled to credit for the invention of spinning by means of a ring.

This patent which was granted Nov. 20, 1828, shows a rotating ring with a hook, which corresponds to the modern traveller.

He described his invention as an "Improvement in spinning and twisting, consisting of a whirling or rotating ring and a revolving hook." Two constructions are described. In one case the rotating ring with a hook on it, is dragged around by the yarn, like the modern traveller. In the second case the rotating ring is positively driven by means of a band.

Thorp says in regard to his new method of spinning: "The objects of the above improvements are to dispense with the common flyer and obtain greater speed than the arms of the flyer and common operations of the bobbin will allow of, and to increase the length of the bobbins, so that a greater quantity of yarn can be spun before they require shifting, and to produce a more constant, even and tensive draught on the yarn than is produced in the common mode of spinning and to render the trembling of the spindle occasioned by wear, less injurious."

We must not forget that this was before the use of metal frames and before the invention of the self-contained spindle.

First Patent Involving Traveller

Who invented the traveller, is a matter of controversy. But the first patent now available showing the ring with the traveller, was granted to John Thorp on Sept. 27, 1844. He calls the ring a "Ring Flier," and the traveller, a "Hook." His patent specifications begins as follows: "Be it known that I, John Thorp—have made new and useful improvements in constructing Ring-Fliers and in the adjustment of the Hooks, being improvements on my whirling and rotary ring and revolving hook spinner and twister for which Letters Patent were granted to me on Nov. 20, 1828."

He shows a construction closely resembling the modern ring and traveller. Thorp describes in detail how the ring or "Ring Flier" and traveller or "Hook" are manufactured: "The hook is made of wire about the thirtieth part of an inch in diameter.... To increase tension on the yarn, etc., the hooks may be made of larger wire, or a number of hooks put onto the ring at one time, and the thread, or twine or yarn cast into them."

Robert E. Naumburg who addressed the S. N. E. T. Club

Thorp was also the first to conceive of a notched ring to allow the traveller to be put on and taken off without springing it.

His History Unknown

We know nothing about John Thorp, except what we can glean from the records of the United States Patent Office. From 1812 to 1829, he gave his residence as "Providence, State of Rhode Island and Providence Plantations." In his last patent he describes himself as "John Thorp now residing in North Wrentham, county of Norfolk, and State of Massachusetts."

In his last patent he declares: "My greatest wish and design in attempting these improvements was to produce something that would cost less and be more serviceable and bet-

ter adapted to the common spinning and twisting frames..... than anything now in use."

He could not have reaped much benefit from his inventions because few, if any, came into general use during his life-time. But where would the textile industry be today without cap spinning, the separator and the ring and traveller?

John Thorp was undoubtedly ahead of his time and like many who have lived ahead of their times, his contributions were great, but his remunerations were small.

And so it seems fitting that in Southern New England, the home of the ring and the traveller, we should honor the memory of this inventor who lived here a hundred years ago —John Thorp of Providence, Textile Pioneer.

Inventors and Their Peculiarities

By *George Otis Draper*

Vice-President Hopedale Manufacturing Company

INVENTORS are the much misunderstood men who produce inventions. Some of them class under the heading of genius. Inventions are defined as original devices, contrivances, plans and falsehoods. It is genius which produces the devices which change men's material courses and likewise the lies which stultify his beliefs. I do not claim to have known all the inventors of note but I certainly have known many competent liars.

Inventors are not all geniuses and geniuses are not all of one grade. Inventions are often produced from logical application of thought and the genius may combine logic and inspiration not knowing which is urging. Inspiration in this sense has been recently classified as the unconscious workings of the subliminal mind, which is a vortex of thought churning over memories of all which the senses encounter and only exuding clear conclusions when responsive to concentrated desire.

From this fount comes all that we know as prophecy, melody, oratory, poetry, art, invention, literature and lies. Some of it is good, much of it is false. We all know the disconnected drama of the average dream; but many an inventor has worked out a problem in his sleep by concentrating his conscious mind on the problem to be solved.

Inventive Results of Genius

There is a sort of mental valve between the conscious and the unconscious minds which opens not only in dreams but also under influence of drugs and chemicals, hypnotic control and the stress of excitement or intense demand. Some note the product by the time taken in exemplification. The average man needs a pencil to work out any sum; but geniuses of seven years have given cube roots of sums in seven figures instantaneously. I took out five patents for an inventor who sketched them in fifteen minutes, in a field which was new to his ordinary thought. In some eleven years of close association with James H. Northrop, inventor of the automatic loom, I can bear witness that he averaged one actual new mechanical conception per day; and many of those not tried, nor patented, might have proved worthy had they been given a chance in use.

Neither mind can work without a store of perceptions and the product is limited by the range of things perceived. The wild men of Borneo did not invent Jacquard weaving. The

George Otis Draper who addressed the S. N. E. T. Club

15,000 words used by the writer of Shakespeare's plays must have all been seen or heard, which casts doubt on an uncouth country boy coming from a village which probably boasted nothing more than a horn-book speller and a Latin Bible. The genius who works in a shop will design better machinery than one who never ran a lathe. Cartwright, a physician, did invent a complete power loom with warp-stop motion in 1785, but its detail did not allow reduction to practice till mechanics co-operated.

The newspapers and magazines give all of us a smattering of knowledge of all things. Their persual may rouse vague speculations but not concrete machinery. The editor of a French paper came to us with an idea of a one-wheel cycle and he later sat and pedalled within the rim. I never knew a more ingenius mind than that possessed by this Victor Belanger, whose early experience with wheels may have suggested later the rotary ring and drained the capital from Boston mayors and many another source of income.

Susceptibility of Inventors

Inventors are peculiarly susceptible to the solicitations of other inventors. When I joined that hard-headed firm of cotton machinery specialists, George Draper & Sons, I found them dabbling with sprinklers, bread-mixers, eyelet-machines, sock-knitters, shoe machinery, et al. We later took interest in electric storage battery, street cars, screw machines, elastic weaves, etc. While some of these lines were successful, it would have saved us all money had we declined to put a dollar in any line outside our own immediate business.

Picking Successes and Failures

I have known three inventors who claimed to have made practical perpetual motions; one would run a circular-saw — for a few minutes. Three more made gold; one said he had the color just right but he could not get the weight to suit him. Another got more heat out of coal and rubber out of weeds. I backed one with a safety auto-crank and they killed it with electric starters. I backed another to coal the Leviathan without need of a man instead of four hundred coal heavers; the machinery was ready to be set up and the war came on— now it uses oil burners.

And I picked Northrop up when others had dropped him and we worked for years back of a locked door. To show how little interest was taken in our progress, I can record that none of my partners even visited the mill when the first devices were tried. For twenty years I worked with my father, General Wm. F. Draper, on the development and patenting of textile inventions. We handled the third largest group in the country, being only rivalled by the General Electric and Westinghouse concerns. We tried out thousands of ideas; patented hundreds of devices and invented a hundred each ourselves. The hundred million spindles and five hundred thousand automatic looms now running bear witness to our efforts.

Logic can not always solve human problems. My father anticipated the need of a warp-stop motion and turned the problem over to a friend who was president of the American Society of Mechanical Engineers as well as a competent inventor and designer. In three years he got out ten devices which were judged impractical. Our able inventor, Charles F. Roper, then got a good one the first week he was on it and Northrop made one over night which was shelved at the time but today anticipates in principle all that are going into use. Curiously, automatic weaving was born in a shop which had never built a loom.

Invention Requires Incentive

Francis J. Rabbeth was a typical genius. I have seen professors of physics try in vain to design a theory which would explain the smooth running of his high-speed spindle under unbalanced loads and strains. We won law-suits on a beautiful solution which did not seem good to me so I made a spindle which blew it up. Rabbeth got $25,000 for the patent; the introducers took in perhaps $10,000,000 net from 25,000,000 sold in this country alone during a limited period and the world has saved a billion dollars in wages, power and floor space for the 100,000,000 used in all countries.

But had Rabbeth been paid commensurately for previous devices, he would not have felt the stress which produced the best child of his genius. He made no more inventions while spending the latter proceeds. Northrop's name no longer appears on the patent lists. I, myself, have not applied for a patent for sixteen years. One has to concentrate on the job and keep off of other jobs. The only way to get good inventions is to starve the inventor. Not necessarily by denying food, but by making him ambitious and keeping the end ever out of reach. Edison has given the world thirty billions of new property by actual calculation but his name does not appear on the list of large tax payers. Sometimes a genius links logic and shrewdness with talent and you then get the exception which proves the rule. I have always admired the wonderful genius and high financial ability of Howard D. Colman, inventor of the knot-tying machine and other trade successes.

My old firm of George Draper & Sons used to give inventors half the proceeds from introduction and sale. It made many mill men rich and also killed their incentives. It was too much. The capital and courage necessary to commercialize and perfect ideas are far more rare than inventive skill. No such mistake was made when the Northrop loom was started.

I have always believed that inventive ability could be developed and trained. I do not believe it is heredity alone which produced seven inventors from Ira Draper, who devised the first revolving loom temple; he had many heirs who never did and never will invent anything. Not that they have not done good work in other lines; some of them became bankers and physicians and politicians.

Inventive genius often turns to fresh channels for a change. Baker, the sewing-machine expert, built a veritable fairy-land at Wellesly, Mass., a delight of my own childhood. J. E. Atwood whose machinery spins our silk wrote a refutation of Newton's theory of gravitation. Wardell, inventor of winding and braiding machines, published a book of poems under the nom de plume of Simon Durst. There are many others but I spare those now living.

I can go back in thought and vision the first cave-man who tied the end of a whip-throng to the other end of the handle and thus made a bow that could give flight to an arrow. I can see how a section of tree-trunk with rotted core gave another the idea of a wheel. I can see the first weaver plying treddles with her toes and shooting a shuttle from hand to hand. Each little improvement aided in producing all the gains to come. We little realize what we owe to the early pioneers, many of whom were burnt or banished, or hung for trying to make things better.

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EDITORIAL

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in the Conservation and Protection
of Domestic Industries

The Goldman Wool Statistics

IF the wool statistician may be defined as one "skilled in the collecting and tabulating of wool statistics," then it may be admitted freely that William Goldman has qualified for this title since the delivery of his somewhat whimsical address before the American Association of Woolen and Worsted Manufacturers last December, and as now exemplified by his Rochester address before the Retail Clothiers' and Furnishers' Association of New York State, Inc., as revised and extended for publication in the *Daily News Record* and TEXTILE WORLD. Since his first address, Mr. Goldman has pursued his study of world wool statistics in a more exhaustive manner with the result that "the mysterious disappearance of two or two and a half years' supply of wool in the world" has become the mysterious disappearance of approximately a half year's supply of wool and the mysterious part of the disappearance has been solved. All of this wool, which he has incorrectly interpreted as designating a surplus, was a normal supply for the world, and of this a half year's supply, or approximately 1,300,000,000 pounds, has been utilized to restock the mills of the world, large numbers of which, particularly in Germany, France, Belgium, Italy, Poland and Czecho Slovakia, had been comparatively bare of the raw material; according to Mr. Goldman's figures at least 400,000,000 grease pounds were required to restock those six countries of Continental Europe.

His deduction tends to prove that there was just as much wool in the world on January 1, 1924, as on January 1, 1921, surplus government holdings of the earlier date having been largely utilized for restockage, thus making the total stock as of January 1, 1924, a normal world supply of wool. He holds that since then the world supply has increased somewhat as the result of curtailed consumption and increased production, but he admits that, as compared with the situation on January 1, 1921, "the wool grower is in an infinitely better position, because there is nothing but the current clips in the wool growing countries of the world." In view of this frank admission it seems somewhat singular that he should fail to differentiate between the stock and price position of the domestic and foreign market, and particularly the radical decrease in stocks held by dealers and manufacturers since January 1, 1921, and the more moderate but important increase since January 1, 1924.

It is also likely to strike the wool trade and manufacturers as somewhat singular that a statistician so prominently identified with the clothing trade should fail to have been struck by the antithesis of the restocking of Continental European mills with wool that is involved in the destocking during 1924 of wool manufactures by jobbers and wholesale and retail clothiers. Surely this destocking, or hand-to-mouth buying movement, when considered in conjunction with the reduction in stocks of wool held by dealers and manufacturers is of sufficient importance to stimulate Mr. Goldman to new statistical endeavors.

While Mr. Goldman is to be highly complimented for his statistical efforts, and particularly for the effective manner in which he discloses the incompleteness and relative inaccuracy of available world wool statistics, he should not feel offended if the trade withholds its judgment of the relative merits of the Goldfinch and Goldman statistics until the former has had opportunity to study and answer the latter's findings.

* * *

That New York Cotton Stock

FOR once we find ourselves in the novel position of being in agreement with United States Senator Smith of South Carolina on a subject affecting the marketing of cotton. Having heard the rumors that have been rather commonly current recently regarding the untenderable character of certain of the New York certificated stock of cotton, Senator Smith drew attention to these reports before the Senate last week and threatened to introduce a resolution directing a review and reclassifying of the New York certificated stock; following a conference with Senator Smith the Secretary of Agriculture has appointed a special investigating committee of three of the department experts to reclassify the stock "for the purpose of determining the facts concerning the staple lengths of government certificated cotton in the port of New York."

The action taken by the Department of Agriculture is unprecedented, but so are the rumors regarding the untenderable character of much of the New York stock and that evidently have been confirmed sufficiently to influence the department to take steps that may disclose the facts and clear the New York classes of suspicion.

It is true that most of the current reports regarding the untenderable character of a considerable proportion of the New York certificated stocks do not involve actual delivery of cotton to spinners on contract, but they are no less significant because they happen to involve cotton that has been taken up by dealers and sold to spinners on description and by the latter rejected, and because they are also based upon reports of dealers and spinners who have sampled certain of the New York certificated cotton and found it less than 7/8 inches in length and therefore unspinnable in their mills and untenderable according to the Federal Futures Act. Much of this untenderable stock is said to be Mississippi hill cotton that never averages much over 3/4-inch in staple, and southern and southwestern Texas cotton that this season is notoriously short in staple. Strong circumstantial evidence that there is something wrong with the character of the New York stock is found in the fact that the near options in the New York market have for some time been quoted below New Orleans options; the abnormal size of the New York certificated stock could hardly account for this elimination of a normal premium of New York over New Orleans futures.

It is regrettable that there should be fresh cause for suspicion regarding the legitimacy and high ethical character of speculative dealings on the New York Cotton Exchange; it is particularly unfortunate that doubt should be cast upon the accuracy of government classing just prior to the gathering of representatives of domestic and foreign exchanges for the purpose of reviewing international cotton standards promulgated by the Department of Agriculture. Since it is the accuracy of government classing that is actually at stake it may also be considered unfortunate that department officials did not see fit to call upon outside classers of recognized expertness and reputation to review the classification of the government certificated cotton in the port of New York. This is not a reflection upon the ability and integrity of government classers, but it does reflect upon the judgment and diplomacy of department officials.

* * *

Fickleness of Textile Demand

IT is remarkable to note how completely demand will oft-times change in the textile industry, one type of merchandise being actually displaced by another. It is surprising that losses are not greater in view of the sudden style changes that occur. An illustration of this statement may be found in the women's wear division of the market, where there seems to be cessation of demand for the moment on wool goods and a substitution of silk or silk and wool fabrics. This applies to both dresses and coats, and may mean a very serious problem for the manufacturer of woolen and worsted dress goods and cloakings.

The above may be one of the reasons for delay in opening of women's wear fabrics in the primary market. Buyers are uncertain as to their purchases for the future and selling agents are complaining about the business in progress and the unsatisfactory character of that which has been done in the near past. As was predicted in these columns several months ago, flannels seem to have reached their zenith and to have been cut off as with a sharp knife. Bolivias are said to be in goodly supply in more than one quarter of the market and selling agents have stocks of this and other lines of merchandise for which there does not seem to be any immediate prospect for a satisfactory sale.

The women's wear market is always an unstable proposition and the possibilities of losses are very great. It takes a long experience to foretell when demand will stop but as those who have had intimate connection with

this class of trade know, demand comes to an end usually when everything seems to be going along swimmingly. This is the reason why reports of large stocks on hand are so frequently heard. The present is not an exception and depreciation in this class of merchandise may not be any greater than under similar circumstances in the past. Nevertheless the experiences of certain houses are not such as to cause self-congratulation.

On the other hand, the silk prospect appears unusually good, not only for dresses but for coats as well. Both silk alone and silk and wool mixtures appear to have caught the popular favor, with the result that silk mills are running to capacity. Under the circumstances the query naturally arises, will a similar experience to that which the wool dress goods people have had be reported in connection with silk manufactures? It is only human nature to take advantage of demand while it is in evidence. However, it is perhaps timely to sound a note of warning in connection with an over-production of silk fabrics which may issue in a piling up of stocks that cannot be sold except at a radical loss. Just at the present time this appears very unlikely. It looks as though the demand for silks from the women's wear field is destined to continue for an indefinite period. But more decided style trends have been changed very suddenly in the past and there is no telling but that history will repeat itself in this connection.

Ginghams a Good Buy

PRICES on fall ginghams made this week by the Amoskeag seem certain to guarantee a continuance of the steady improvement in the distribution of these fabrics which has featured recent months. The advance of 1c a yard over prices named last fall on spring goods is practically certain to set the pace for the rest of the market, although official announcements on the products of other mills, both North and South, have not been made as this is written.

In other words, if ginghams as a class do not come back into the full vigor of popular approval this year it will not be the fault of primary market merchandising. Leaders in the business are giving an excellent demonstration of how to help back to a firm footing a type of cotton goods fabric which suffered severely during 1923 and 1924 from overproduction and a temporary style reversal.

The new fall prices strike the impartial observer as an example of capable merchandising in a market situation which is full of ifs, ands and buts. The advance is distinctly moderate. From the competitive standpoint it is considered too small, if anything. It leaves ginghams just as cheap now as they were last fall, comparative raw material quotations considered, and the prices made last fall sent a cold chill down the back of every mill treasurer who knew anything about production costs.

This week's advance might have been 1½c, with no complaints from jobbers or cutters. It might have been as much as 2c, though the question of how buyers would have reacted to a mark-up of this size is highly debatable.

At the advance actually made there is hardly any doubt that intelligent buyers will operate freely and quickly. Capable resident buyers in close touch with the cotton goods market do not hesitate to acknowledge that mills will be able to sell all the ginghams they care to at the new quotations. It is a fair assumption that the quantities they will sell will be limited, and that it will be possible to work prices up to higher levels, with no disastrous curtailment of volume, before many months have passed.

No one will dispute the fact that they are entitled to higher prices.

Not the least noteworthy angle of the small advance put into effect this week is the fact that it does not open the way to a resumption of the private quarrel between two outstanding producers which was fundamentally responsible for the drastic cut of 3c made on spring prices shortly after opening quotations were announced last fall.

As the situation stands now, production has apparently been sufficiently curtailed to insure consumption of all the well-styled ginghams that will be made this year. Their pronounced return swing to popular favor will not be checked by reasonable moves to work them back to a normal profit basis, and there is every assurance that correct pricing will have all the careful attention it deserves.

Wool Trade Banquet

Boston Holds 13th Annual Dinner For Members Only

The elite of the wool trade attended the 13th Annual Banquet of the Boston Wool Trade Association which was held in the main dining hall of the Boston Chamber of Commerce, Wednesday evening, Mar. 4. Owing to the fact that attendance was limited to bonafide members of the association less than 400 persons were present which may be compared with last year's banquet when approximately 1100 were present One result of the limitation of the privileges of the association has been in the large number of applications for membership received and it is expected that the association will net at least 100 additional members.

The general character of the meeting was sedate and dignified and of considerable educational value. The chief speaker of the evening was Glenn Frank, editor of the *Century Magazine* who spoke forcefully and interestingly on the topic "The New Spirit in Business." The lieutenant-governor of the Commonwealth, the Honorable Frank G. Allen, was also present and made a brief address. Charles J. Webb of Philadelphia had also been invited as a speaker but was unable to be present. John Wilcock, president of the association, elected during his absence in New Zealand, occupied the usual position at the head table and introduced the speakers.

Before introducing the speakers President Wilcock, who had just returned from Australia and New Zealand, referred briefly and optimistically to the world wool situation, his statements being in part as follows: "Just now the clouds are dark and the sky somewhat overcast in our business. At the same time remember there is always a silver lining to every cloud. And I really believe, especially in view of the strong statistical position of wool, if we only have a little patience, keep a stiff upper lip, some back bone, our feet warm and do not part with our merchandise, unless of course we can replace it with a profit, that the silver lining will appear in the near future."

The following factors were seated at the head table: H. Leroy Pitkin, president of the National Association of Worsted and Woolen Spinners; Robert P. Francis, president of the American Association of Woolen and Worsted Manufacturers; Walter P. Wright, vice-president of the Association; George H. Hodgson, vice-president of the Cleveland Worsted Mills Co.; H. K. Webb of Philadelphia; John Wilcock, president of the Association; Honorable Frank G. Allen; Glenn Frank, New York, W. G. P. Harding, president of the Federal Reserve Bank; Franklin W. Hobbs, president of the Arlington Mills; J. J. Nevins, secretary of the American Association of Woolen and Worsted Manufacturers, Honorable W. W. Lufkin, collector of the port of Boston; Reuben Windisch, president of the Philadelphia Wool and Textile Association; F. Nathaniel Perkins, secretary Boston Wool Trade Association.

James H. Barnard was chairman of the committee of arrangements and Mayall Bruner had charge of the tickets and seating arrangements. The Morey Pearl Orchestra was in attendance and there were also selections on the Grand Organ.

TEXTILE CALENDAR

National Association of Cotton Manufacturers, Spring Convention, Washington, D. C., April 6, 7 and 8, 1925.

Knitting Arts Exhibit, Commercial Museum, Philadelphia, April 6-11, 1925.

National Association of Hosiery and Underwear Manufacturers, Annual Convention, Bellevue-Stratford Hotel, Philadelphia, April 8, 1925.

American Cotton Manufacturers Association, 29th Annual Convention, New Orleans, La., April 10-11, 1925.

Southern Exposition, Grand Central Palace, New York, May 11-23, 1925.

Southern Wholesale Dry Goods Association, Convention, Hotel Sinton, Cincinnati, Ohio, May 12-14, 1925.

National Association of Worsted and Woolen Spinners, Annual Meeting, Waldorf-Astoria Hotel, New York, May 13, 1925.

First Chemical Equipment Exposition, Auspices of Chemical Equipment Association, State Armory, Providence, R. I., June 22-27, 1925.

American Society for Testing Materials, 28th Annual Meeting, Atlantic City, N. J., June 22-26, 1925.

Knitted Outerwear Manufacturers Association, Western District, Semi-Annual Meeting and Outing, Sheboygan, Wis., June 25-26, 1925.

National Knitted Outerwear Association, Annual Convention, Hotel St. George, Brooklyn, N. Y., July 9-11, 1925.

Carolinas Exposition, Charlotte, N. C., Sept. 21-Oct. 3, 1925.

Japanese Cotton Consumption

WASHINGTON, D. C.—Raw cotton consumption in Japan during December last amounted to 184,000 bales of 500 lbs. gross, compared with 175,000 bales in November and 165,000 bales in October, Acting Commercial Attache Rhea, at Tokyo, has advised the Commerce Department. Total consumption from August to December inclusive was 819,000 bales, against 786,000 in the corresponding 5-months period of 1923. Consumption in 1924 totaled 1,914,000 bales, against 2,004,000 in 1923. The figures are those reported by the Japan Cotton Spinners Association and include about 95% of the total number of spindles in Japan.

Raw Cotton Movement

WASHINGTON, D. C.—The cotton movement from Aug. 1 last to Feb. 27, as reported by the Department of Agriculture, is as follows:

	1925 Bales	1924 Bales
Port receipts	7,750,349	5,690,[illegible]
Port stocks	1,288,422	794,[illegible]
Interior receipts	9,107,615	6,627,[illegible]
Interior stocks	1,130,268	789,[illegible]
Into sight	12,671,361	9,742,[illegible]
Northern spinners' takings	1,394,259	1,407,[illegible]
Southern spinners' takings	3,060,326	2,915,[illegible]
World's visible supply of American cotton	4,227,890	2,78[illegible]

Study of World Wool Supply on January 1, 1925

Annual "Retention" of Wool as Basis for Annual Consumption—Indication that World Has as Much Wool as It Had at Start of 1921—Europe Has Been Restocking After War-Time Depletion—Sir Arthur Goldfinch Overestimates Three-Year World Consumption by Billion Pounds

*By William Goldman**

In the accompanying article William Goldman elaborates his position on the world's raw wool supply which was the subject of his address before the annual meeting of the American Association of Woolen and Worsted Manufacturers last December. In brief his argument is that quite as much wool lies ahead of the world's machinery at the start of this year as was on hand Jan. 1, 1921. He also states his belief that Sir Arthur Goldfinch in his article which appeared in our Annual Review number overestimated world consumption in three years by a billion pounds.

MY study was begun in an effort to compare the relative stock of wool ahead of the machinery of the world on Jan. 1, 1925 as compared with Jan. 1, 1921.

When the war ended in 1918 the British Government was anxious to get out of business as quickly as possible, and as the Government found itself in the possession of 2,000,000 bales of wool at the end of 1918, and was under contract to receive all the wools shorn in Australia and New Zealand until June, 1920, it was impossible for the British Government to go out of the wool business, and therefore an organization known as the British Australian Wool Realization Association was created (for brevity called Bawra), and it was the function of this organization to dispose gradually of the supplies of wool then on hand, as well as to take the wools that were coming along from Australia and New Zealand up to June, 1920.

On Jan. 1, 1921, it was possible, because of the published statement showing how much wool the Bawra held, and to which could be likewise added the accumulations known to exist in South America and South Africa, to estimate that other than the current clips coming along, the stock of old wool in first hands at that time was something like 1,500,000,000 lbs.

Proceeding from the known quantity of old wools then on hand—and the great bulk of these were still in the countries of origin—it was estimated that adding together the supplies in the United States, those in Europe, and the new clips that had just come in the Southern Hemisphere, made approximately two years' supply of wool for the world.

Post-War and Pre-War

In my study of the situation since, I have rather reached the conclusion that the supply at that time was a two years' supply of wool only in terms of the reduced post-war production, and that if we were to consider it in the light of pre-war production of wool and present day consumption of wool, it was probably 10% short of a two years' supply.

I must also confess that when I undertook to make a statistical study of the situation of world wool supplies at this time, I viewed the project with considerable dismay, because I wasn't undertaking to make the usual sort of study of wool conditions. I was actually intending to take in inventory of the wool ahead of the machinery of the world on Jan. 1, 1925.

Sources of Information

The only country in the world that I know of that has any figures on mill consumption as reported to its government is the United States, and it is generally assumed that these are about 80% complete. The American Woolen Co. and some 20 other mills do not report, and therefore it was impossible to make a statistical study from the standpoint of figures on consumption.

But I discovered in my study of the situation that there was another way of making this survey of world conditions, and I requested the Bureau of Foreign and Domestic Commerce of the Department of Commerce to supply me with figures which would make possible the only kind of study that would approximately show the true situation, and I want to acknowledge my indebtedness to Mr. Pickard and Mr. Wilson of the Department of Commerce for their wholehearted cooperation in giving to me almost daily over a period of weeks, the statistics required for this study, which have been gathered concerning every wool using country of the world, and without which helpful cooperation the paper that I present here would have been impossible.

The Retention of Wool

My study of the wool situation is based on the retention of wool by the world. Retention of wool means the domestic supply of a country (the wool that is grown in that particular country), plus its imports, less its exports and re-exports. When you get this figure for all the countries of the world, and get it for a period of years, it gives, subject to one adjustment, the approximate consumption of all the countries involved, and that one adjustment is this, and it is an important one.

It is necessary to known what the stock was at the beginning of the period and what it was at the end of the period. Now, while I haven't been able to get these stocks in most cases, I have been able to interpret from conditions the size of the stocks both at the beginning and end of the period under investigation, and make due allowance for the changes in them.

And even if we didn't have these at all, if we had the retentions alone for a sufficient number of years, we would get an approximation of the world's consumption of wool, one that would probably not be more than 5% out of the way in either direction.

In making the study along these lines, I ascertain that the world consumed during the three years 1921, 1922 and 1923, 89¾% of its annual consumption of clothing wools during the pre-war period 1909-1913, and that, therefore, inasmuch as we had lost about 11% in production of raw wool, we had approximately as much wool in the world on Jan. 1, 1924, as we did on Jan. 1, 1921.

Declining Consumption

For the year 1924 the consumption not only of this country but of the world appears to have declined somewhat as against the year 1923. In this country the falling off was considerable. Our reduction in actual consumption was 86,000,000 lbs., after allowing for a 62,000,000 lb. reduction in stocks that took place in this country as between Jan. 1 and Dec. 31, 1924.

On the other hand, we have had a considerable increase in world production of wool in the year 1924. The Australian clip is some 83,000,000 to 85,000,000 lbs. greater than it was in 1924, the United States clip will be from 16,000,000 to 20,000,000 larger, and smaller increases in other countries will probably bring the whole increased production up 125,000,000 lbs.

It is therefore clear that with the falling off of consumption in 1924, and the increased production on the other hand, we are again all square so far as the stock of wool is concerned, and have as much wool in the world on Jan. 1, 1925, as we had on Jan. 1, 1921.

Less Woolen Goods Used

Let me, in passing, remark that while we consumed 89¾% of our pre-war consumption over the three year period, our consumption in the two years 1921 and 1922 taken together, of goods as distinguished from wool, was probably below 80% of normal, and for the two years 1923 and 1924 taken together about 100% of normal.

Obviously the consumption was larger in 1922 than it was in 1921, and in 1923 than it was in 1924, but the actual consumption of goods is always at a period somewhat later than the consumption of wool.

When I had brought my study to the point where I had made a comparison based on the retentions of wool for the post-war years as against the pre-war years, and decided that we had on hand slightly more wool on Jan. 1, 1924, than we did on Jan. 1, 1921, I realized that analysts and statisticians might well question my conclusions if I had no other basis than a comparison of post-war and pre-war retentions of wool.

And so I began to think of ways and means of proving that it was right, and I suddenly hit upon one method that I thought would at once put the matter beyond dispute, and it was a very simple one.

World Stock Inventory

I decided to set up a new table, in which I wrote down on the debit side the world wool production for the years 1921, 1922 and 1923, and on the credit side the world's retentions of wool for the same three years, making adjustments to cover decrease of United States stocks and increase of Europe's stocks. The result was as follows:

On the debit side—7,479,203,000 lbs.
On the credit side—7,496,503,000 lbs.

In other words, I had taken an inventory of the world's stock of wool, and found a method of checking it back and proving beyond question that we had as much wool in the world on Jan. 1, 1925, as we did on Jan. 1, 1921.

Now if we had just as much wool in the world on Jan. 1, 1925, as we did on Jan. 1, 1921, and the supply on Jan. 1, 1921, was a normal supply of wool for the world to have, the question would naturally arise in your minds, why should we on the one hand have chucked the wool away in 1921, and sold it for less than pre-war prices, and why on the other hand with just as much wool in the world should we have run it back to war prices by Jan. 1, 1925?

In my address to the woolen manufacturers on Dec. 3, I said that I longed for the powers of a Conan Doyle that I might strip the wool situation of its camouflage, and I thereupon set about trying to explain the situation as it appeared to me from the standpoint of an observer of all factors relating to distribution.

But I hadn't looked at any statistics other than those of production of wool, for the reason that in all the years that I have been identified with matters related to the wool situation, I had never been able to get anything but fragmentary and disconnected slants on the general situation in wool, and I didn't believe that a thorough and complete study of the world situation on wool consumption was possible.

And now that I have had an opportunity to delve into these statistics, the answer to this mysterious question that I have just propounded has been made perfectly clear, even to a layman; and I have rather marveled that up to now there has been no one in the great wool industry of the world who has been able to correctly interpret one of the most remarkable trade movements known to modern commerce.

We have some great authorities in the wool trade. The one who is quite generally regarded as the greatest is Sir Arthur Goldfinch, the chairman of the Bawra, a man who has very great familiarity with the wool problem. He has undoubtedly, perhaps better than others, understood certain aspects of the great problem; but it is my belief that he has failed completely to correctly interpret others.

The Surplus War Made

When war began in 1914 Germany occupied northern France, where the bulk of its woolen and worsted machinery was located, in the Roubaix

*William Goldman of Cohen, Goldman & Co., New York, has revised for our use the accompanying material which he took from a longer article written by him which recently appeared serially in the *Daily News Record* of New York.

district. It likewise took over the entire woolen and worsted machinery of Belgium, a large manufacturing country in woolen textiles.

Germany, Austria-Hungary and Poland, as soon as the blockade become effective, were shut off from supplies of wool, and therefore when the war ended in November, 1918, and we had a 1,300,000,000 lb. surplus of wool—and by surplus wool we mean old wool other than the current clips coming along—an allwise Providence seemed to have so ordered the consumption of wool during the war that we should have left a sufficient quantity of wool in surplus in the rest of the world at the end of the war to comfortably and generously restock the continent of Europe when the war was over.

And the great problem that has been so obscure, and has so deceived the wool trades of the world has been the problem related to the restocking of Europe with this world surplus of wool. While we had consumed below normal during the period of the war, because of the shutting off of Continental Europe from wool importations, England, the United States and many of the neutrals, had greatly increased their production during the war, which to a very considerable extent offset the decrease by Europe. When the war was over and we had this 1,300,000,000 lbs. as an apparent gain of the period of the war in the supply of wool, of which at that time approximately 2,000,000 bales was held by the Bawra.

Three Things Happened

And then three things happened, First, immediately the war stopped, wool supplies began to mount. By June 30, 1919, Bawra's stock was over 3,000,000 bales as against two when the war ended. Stocks went up because of the stoppage of our military requirements on the one hand, and Europe wasn't ready to restock on the other.

And let me here quote from a statement of Sir Arthur Goldfinch to the Bawra, made in 1923:

"The textile machinery of Germany, Austria and Poland, for financial and political reasons, and of Belgium and northern France, for physical reasons, did not get into full working order until late in 1920."

Second, then came the boom starting in the spring of 1919, which lasted until the spring of 1920, and we had an unprecedented demand during that year, a demand that, however, applied to the United States, England and to some of the other neutral nations that had not been involved in the war; and we used as much or more wool in that year than we used in our big war years in all of those countries, except the Continent of Europe.

The Slump in 1920

Third, then came the slump in 1920, beginning in May in this country, earlier in Japan, and some few months later in England. And from May on we reduced our imports of wool for the last eight months of 1920 to 25% of what they had been in the first four months, or in the year 1919. And England likewise began to slow down, and stop taking on new wool commitments. And therefore, by Jan. 1, 1921, when the period under investigation by me begins, in spite of the fact that in the year 1920 we had managed to get 647,000,000 lbs. of wool to those sorely tried countries of Continental Europe, the slowing down in our own country's importations, and in the importations of England and other neutral countries, in the latter half of 1920, probably exceeded what we had turned over to the Continent, and we had somewhat more wool on hand on Jan. 1, 1921, than we did in November, 1918, when the war ended, because even out of that 647,000,000 we shipped to Europe in 1920, a large part was still unconsumed. They had to restock.

Wool Prices Dropped

What happened then is known to all of us. The price of wool dropped to less than pre-war prices. Financial institutions were no longer prepared to support the wool markets. The wool had to go for what it would bring, and whereas other commodities dropped from 33 1-3 to 40%, wool declined 60 to 75%. In spite of that fact the trade didn't load up on wool through 1921, and although after the stagnation in the second half of 1920 there was a revival of trade in 1921 in this country, and a similar revival in Europe, it was still very slow throughout the entire year, and it was not until late 1921 that the wool and woolen trades began to take new courage and began to buy wool. And in 1922 Continental Europe, which during the two years 1920 and 1921 had taken almost the identical amount of wool each year, an average of 655,000,000 lbs., at one fell swoop swung up to 1,312,000,000 lbs.

Now right here was laid the foundation for the most misintrepreted wool movement that the world has ever known, and it is this misinterpretation that explains a large part of the mysterious disappearance of a two years' supply of wool, because when Europe took double the quantity of wool in 1922 over what it had taken in 1920 and 1921, the experts believed that Europe had actually consumed the bulk of this wool. As a matter of fact, what Europe did was to consume only part of that wool, and use a large part of it for restocking. In other words, it was taken as a reservoir ahead of the machinery.

Buying to Restock

Now you and I, as distributors of clothing, know that if a man goes out of business temporarily and then resumes business, he has got to put in a new stock of merchandise, and even though he does a large business, he is constantly replenishing that stock and carrying a certain stock as a permanent reservoir on which he is going to draw for his sales.

That is just exactly what Europe did in 1922 when it doubled its takings of wool. These countries, when they ran their takings of wool up as they did in 1922, didn't immediately consume that wool. They bought it to restock.

The leaders and authorities, however, of the wool trade, including Sir Arthur Goldfinch, made a wholly inadequate allowance to cover this restocking. Let me quote from a statement made by him in his address to the stockholders of the Bawra, delivered in 1923, when he gave the figures of the large takings of wool by the world, including Continental Europe, for the year 1922:

"The nearest estimate which can be made of the wool passing through the machinery in 1922, omitting Russia and Asia, is as follows—." And the figures that he gives for each country show that he allowed about one-third the amount of wool required for this process.

What Restocking Means

I am assuming that restocking in Europe involved only 60% of annual consumption instead of 75% as in America. The average stocks carried by dealers and manufacturers in the United States in the years 1921, 1922 and 1923 were 74% of annual consumption. And therefore, when they took 657,000,000 lbs. more wool in 1922 you must calculate that conservatively at least 400,000,000 lbs. was required to restock those six countries of Continental Europe (Germany, France, Belgium, Italy, Poland and Czecho-Slovakia) because it must be remembered that in the wool and woolen trades there are three agencies to restock instead of two, as in the clothing trade.

The two in the clothing trade are the manufacturers, and the retailers. In the woolen trade we have to restock the wool dealers, the woolen manufacturers, and the yarn manufacturers.

Let me illustrate this whole situation by another table. It is a table showing the retentions of wool for the whole world for the years 1921, 1922 and 1923. In 1921 the world took 2,135,000,000 lbs. of wool. In 1922 it took 3,143,000,000 lbs., an increase of over 1,000,000,000 lbs. In 1923 it dropped back to 2,526,000,000 lbs., and in 1924 it will undoubtedly be still less.

Now, doesn't this show at a glance the whole situation, how we had reabsorbed this surplus wool into the normal channels of trade of the world, not only to restock Europe but to replenish the stocks of those countries that had permitted them to run down in 1920 and 1921, during the period of stagnation, when the wool wasn't consumed?

Surplus Not Consumed

None of that surplus accumulation as of Jan. 1, 1921, was consumed. It simply ceased to be surplus, and went back into the normal channels of trade and of a reconstituted world. And all the time the wool trade of the world has been told by its leaders and its authorities that we had consumed the surplus that we had at the end of the war, and our current clips as well, and were therefore consuming a great deal more wool than we had before the war, and we were running into a wool famine.

The *Yorkshire Observer*, one of the greatest wool papers of England, in its January number this year, calls attention to the fact that we have reverted to the pre-war condition of being "back to the sheep's back." That with the sale of the last of the Bawra wool, which was disposed of in the spring of 1924, we were down to nothing but current clips, as we were in the pre-war year.

Well and good, but there wasn't any talk of a famine then. We don't have to restock Europe again. And if we had had a more intelligent interpretation of this whole movement, such a rise in prices as took place last year would never have been possible.

Goldfinch Goes Astray

It is here that I believe Sir Arthur Goldfinch has gone astray in his analysis of certain facts relating to distribution of merchandise. In this same statement that he made to the stockholders of the Bawra in 1923 he said:

"As a matter of fact there has been no period of 12 months since the war when the amount of wool passing through the machinery throughout the world has been less than a year's growth. Possibly the consumption fell below that level during the worst period of the slump, roughly, the first half of 1921, but at all other times, however badly profits may have compared with the boom period, the consumption was somewhat in excess of the growth of wool and was eating into the accumulations of the war period."

How could he possibly have so construed the situation? The surplus was there for the specific purpose of restocking Europe. Altogether approximately 700,000,000 lbs. was used for the purpose, 400,000,000 lbs. having been devoted to that purpose in 1920, but inasmuch as I am comparing with the situation as of Jan. 1, 1921, all that I am taking cognizance of is the 400,000,000 lbs. that was used for this purpose after Jan. 1, 1921.

"Wholly Erroneous Conclusion"

This brings me finally to a statement made by Sir Arthur Goldfinch only a little more than a month ago, and I want if I may to take this up in some detail, because it shows to my mind how he, great authority that he is, has come to reach a wholly erroneous conclusion as to the consumption of wool, apart from the restocking of Europe.

The statement referred to appeared in TEXTILE WORLD'S year book published Feb. 7, 1925. In it he estimates the machinery consumption of wool for 1923 to have been 2,890,000,000 lbs., and after allowing for duplications of 50,000,000 lbs., puts it at 2,840,000,000 lbs., and then lists the countries showing how they took the wool.

His figure is more than 300,000,000 lbs. above the actual official figures for that year. But having this estimate now to put alongside of his estimates for 1922, I am enabled to compare his figures with the official figures for both years which I use, and I find that in some countries he has used the official figures, and his figures are identical with mine; but in the majority of countries he has used estimates in arriving at his conclusions.

Goldfinch Estimates Vary

In the case of France and Germany, his estimates are under the official figures, showing that he made some allowance in the case of both of them for restocking, but a wholly inadequate one. In the case of Germany it was not over 20% of what he should have allowed. But in the other countries his estimates have been too large, and they are the important countries.

For example, in the United States he estimated the consumption in each year at 750,000,000 lbs., a total of 1,500,000,000 lbs. The official figures for the two years are 1,272,000,000 lbs. The way he probably arrived at this estimate is that he took the figures for our fiscal year running from July, 1922, to July, 1923, when we retained a very large amount of wool because of the tariff enactment, but actually taking the two calendar years, 1922, and 1923, our retentions were about 636,000,000 lbs. each year.

In Spain he has estimated the consumption each year at 150,000,000 lbs., whereas the actual figures for the two years together are only 153,000,000 lbs. His overestimate in the case of Spain was no doubt due to the fact that, erroneously, Spain's wool production in 1921 was reported at 165,000,000 lbs., when it was only 88,000,000 lbs. But he has continued to use that same figure later on, when it was well understood that Spain's production could not have been so large.

Official British Figures

In England he has estimated the consumption for the two years at 1,325,000,000 lbs., whereas the official figures for the two years are 1,198,000,000 lbs.

In the April, 1924, *Bulletin* of the National Association of Wool Manufacturers reference is made to an article written by Sir Arthur Goldfinch for the January, 1924, number of the *London Times*, Trade and Engineering Supplement. In this article Sir Arthur gives

(*Continued on page* 159)

CONDENSED TEXTILE ITEMS

Textile Executives to Meet in Atlanta

ATLANTA, GA.—Operating executives of textile mills in Georgia will attend a meeting of the Textile Operating Executives of Georgia on Wednesday, Mar. 18, at the Henry W. Brady hotel in Atlanta.

This organization is composed of managers, superintendents and department heads of cotton mills, and the purpose of the meeting will be the discussion of technical mill problems relating to textile work. The meeting will consist of a morning session and an afternoon session with a "Dutch" luncheon in the main dining room of the hotel at one o'clock.

William W. Arnold, Jr., general superintendent of five of the Fuller E. Callaway mills, at LaGrange, Milstead and Manchester, is general chairman of the organization and will preside. Louis L. Jones, secretary of the Canton Cotton Mills, is vice general chairman.

The morning session will be devoted to a discussion of carding problems led by George A. Franklin, general superintendent of the Sibley, Enterprise and Augusta mills, of Augusta. At the afternoon session Frank S. Dennis, manager of the Consolidated Textile Corp., of LaFayette, will lead an informal discussion on spinning.

Superintendents and managers from mills in Alabama and the Carolinas are also expected to be present at the meeting, there being an anticipated attendance of approximately 200 mill men.

* * *

Report to Senate on British Cotton Growing

WASHINGTON, D. C.—While the British Empire Cotton Growing Corporation is trying to look far into the future in encouraging the cultivation of cotton throughout the British Empire there is little danger for many years to come that the United States may lose its position as the world's largest producer, the Federal Trade Commission has reported to the Senate in response to Senator Sheppard's resolution to inquire into the development and activities of the British corporation.

The increase in foreign production seems to afford little ground for expecting a decrease in the near future in the cotton production of this country, the Commission advised. Its report expressed the opinion that the British efforts, if successful, are more likely to affect the price of cotton but even this doubtless would be slight because of the probable increase in demand for cotton goods.

Discussing the immediate object of the British corporation to develop the cotton growing possibilities of the Gezira district of the Sudan, the Commission reported that the effect upon the American cotton growers would be slight, since the total area in that region is only 1,000,000 acres and the prospect is for the development in the near future of only 300,000 acres. Whether or not the entire area of the Gezira district will be put under cultivation depends upon the results of arbitration between the Egyptian and British governments, the Commission advised.

* * *

N. C. Rejects Bill to Limit Labor

RALEIGH, N. C.—The bill limiting the working hours of children under 16 years of age to eight a day was killed in the committee of the General Assembly of North Carolina.

* * *

Englishmen at Conference on Universal Cotton Standards

MANCHESTER, ENG.—With reference to the conference to be held at Washington, D. C., on Mar. 9 and following days on universal cotton standards, the Federation of Master Cotton Spinners' Associations will be represented by F. Holroyd of Halifax, the president, and Joseph Wild, the chairman of the Wigan and District Cotton Employers' Association.

* * *

Ask Textile Instruction in Philadelphia Schools

Representatives of the Philadelphia Textile Manufacturers' Association, the Board of Public Education, the Stanley Company of America and those appointed to an independent committee, met recently in the home of Mrs. H. Blum, wife of president of the Craftex Mills, Frankford, to act upon a resolution which had been jointly drawn for presentation to the Board of Education, requesting that a course in textile instruction be included in the curriculum of public schools in this city.

Among those in attendance were Simon Miller, Jacob Miller & Son Co., Wm. F. Read, Jr., Wm. F. Read & Co., representing the Philadelphia Textile Manufacturers' Association, Jos. W. Randall, of Jos. W. Randall & Co., Horace Greenwood, Jr., Globe Dye Works, C. W. Carvin, Chas. J. Webb & Sons Co., Inc., Herman Mayer, Herman Mayer & Co., Mr. and Mrs. Herman Blum, Craftex Mills and H. H. Phillips, Viscose Co. The Board of Education has displayed sympathy with the views of the committee and it is believed fair progress has already been made in the public schools.

Rejects 48-Hour Week for Women and Minors

CONCORD, N. H.—The New Hampshire House of Representatives rejected a bill sponsored by Governor John G. Winant, to establish a 48-hour working week for women and minors in industry. The vote was 198 to 153 against the measure. Governor Winant, who had made the 48-hour week law an important issue in his campaign, sent a special message to the House urging its adoption. In the campaign the Democratic party unqualifiedly indorsed the measure in its State platform and the Republican party, of which Governor Winant is a member, while not mentioning the matter specifically, adopted an indorsement of the national platform approving an eight-hour day. Governor Winant issued a statement in which he declared himself deeply disappointed in the action of the legislators.

* * *

Discuss Short Time at British Spinners' Annual Meeting

MANCHESTER, ENG.—At the annual meeting of the Federation of Master Cotton Spinners' Associations held at the Holdsworth Hall, Manchester, on Feb. 20, F. Holroyd, the president, replied to the criticisms which had been made that the Federation was endeavoring to put into operation a policy of artificially restricting trade for the purpose of bolstering up profits. "No better reply could be made to this charge," said Mr. Holroyd, "than to publish, if it were possible, the result of the last stock-takings of every firm comprising the American section. In this connection I may mention that in November and December last the Short Time Organization Committee considerably increased the working hours, as it was felt that such increases were warranted by the demand for yarns. As a matter of fact it was following representations made by manufacturers on the grounds that there was a shortage of yarn in certain counts, that the Committee decided to increase working hours.

"Other branches of the industry can, without let or hindrance from the press and public, follow a continuous policy of artificially reducing production with the object of ensuring large profits, but immediately the spinning section is suspected of a mild dose of the particular medicine, a general outcry is made.

"Only recently I read in the newspapers that operatives in a certain district were becoming restless on the score of continuous short time, and that recommendations were adopted for securing some financial consideration for operatives. This trade of ours requires help badly, and it is not in a position to render help. I sincerely hope that the operatives will realize this as it is imperative that all connected with the trade must pull together.

"With the present acute shortage of labor in the mills I think you will agree it is advisable if at all possible to retain some form of agreement providing for the introduction of male labor into cardrooms, but unless the Operatives' Amalgamation enters the future negotiations with a disposition to meet the requirements of the trade I cannot see any other alternative but to abrogate the agreement."

* * *

Marine Corps Bids

Bids will be opened at the Philadelphia Depot of the U. S. Marine Corps, Broad St. & Washington Ave. on Mar. 11 for the following items: 20,000 yds. crash toweling, 10,000 yds. unbleached muslin, 100,000 yds. bobinet and 10,000 yds. unbleached flannel, all for Philadelphia delivery. On Mar. 16 bids will be opened for a number of textile items among which are 20,000 yds. unbleached cotton drilling, 30-in, 75,000 yds. flannel shirting, khaki, 8½ ozs. 54-in. and 20,000 yds. kersey sky blue, 16 ozs. 54-in., also for delivery at Philadelphia.

* * *

New Members for Phila. Mfrs'. Association

Seven concerns have been proposed for active membership in the Philadelphia Textile Manufacturers' Association and four associate members. Those applying for active membership are: F. A. Tomalino Dye Works, J. R. Kendrick Co., manufacturers of elastic hosiery, Crown Dye & Finishing Co., Stelle Mfg. Co., manufacturers of men's wear and dress goods, Frankford Worsted Co., men's wear and dress goods, R. J. Ederer Thread Co., spinners of flax, and the Tailor Hosiery Co.

Frank Nelson & Son, power house piping, Weinberg & Potsdamer, textile chemists, Buchmuller Motor Transportation Co., and Collins Engineering Corp., combustion engineers, were proposed for associate membership in the association. Preparations are now under way for the semi-annual meeting which will be held in May.

PAWTUCKET, R. I. Renovation of the exterior of the old Slater Mill, which is being converted into a textile museum, is expected to be completed within the next two months and it will then look exactly as it did when erected by Samuel Slater. The addition that was built to the old structure in 1886 will be torn down and a small building, to house the heating apparatus, erected 20 feet from the mill. A number of antiques have already been donated for the museum.

American Woolen Annual

Many Questions About Company's Conduct Answered by Pres. Pierce

The annual meeting of the American Woolen Co. was held Tuesday of this week at the Hotel Kimball, Springfield, Mass. Outside of the election of officers and declaration of preferred stock dividend, the meeting consisted of questions propounded by some of the minor stockholders present and answered by President Pierce.

Officers Elected

At the conclusion of the stockholders meeting, at which Henry P. Binney and Frederick B. Edington were elected as directors, the board of directors met and elected the following officers for the current year: President Andrew G. Pierce; first vice-president, Frank H. Carpenter; second vice-president, Wheaton Kittredge; third vice-president, Parry C. Wiggin; secretary and treasurer, W. H. Dwelle. Willard A. Currier was elected 1st assistant treasurer; Arthur P. Pousland, 2nd assistant; Charles A. Hardy, 3rd assistant and James G. Hill, 4th assistant. Frederick G. Sherman was named assistant clerk. The executive committee consists of President Pierce, chairman, Frederick R. Edington and Wheaton Kittredge. Parry C. Wiggin was re-elected comptroller.

The report of the president was submitted and approved and a quarterly dividend of 1¾ percent, payable April 15, was declared It was acknowledged that this dividend is to be paid from surplus.

Rumors Denied

Mr. Pierce was kept busy denying rumors of various kinds regarding the future of the company. He refused to listen to any criticisms of former President Wood but stated that certain changes would be made in the conduct of the company's affairs. Mr. Pierce declared that as soon as possible the American Woolen Co. of New York will be owned directly by the company, without trusteeship, as in the past. He denied that any investigation of the company had been undertaken by bankers, declaring that this denial was not only for himself but for the rest of the board as well. In reference to farm land owned by the company, Mr. Pierce told the stockholders that the American Woolen Co. would not be in the farm business very long. It would, however, take some time to liquidate these holdings.

The president also declared that the company had paid $500,000 for the Slater Mills at Webster, now known as the Webster Mills of the Company. The company had capitalized these mills for $2,000,000 and has endorsed notes amounting to $5,500,000 against the property. He further stated that although the deficit on the Shawsheen Mills at the end of June, 1924 amounted to over $850,000, they were now making money, the turn coming at the latter part of 1924.

Too Much Machinery?

While admitting that the company now has more mills and more machinery than might be advisable he contended that if business picks up as it should "we won't have a bit too much." With regard to the rent of headquarters in Boston and Shawsheen he intimated that offices at the latter point meant a loss to the company. "I want to tell you" he said, speaking of outside activies of the company, "that I am trying to work out a system to liquidate these holdings to the best advantage of the company. I may not be able to do it myself but hope to make a start on it. Give the present management time to clean up and a great many of the things which you stockholders think should not be indulged in will be rectified."

Mr. Pierce denied the charge that Mr. Wood had exploited the company for his personal gain. He stated that while his salary had been a large one, it was based on a commission based on the sales of the company and for business reasons refused to disclose the figures. At the present time, he stated, the president has no salary, but declared his belief that the basis of a commission on sales to determine the amount of this salary was wrong and should be eliminated. In the future, Mr. Pierce said, the president will be paid a straight salary but the amount has not been determined.

The stockholders voted to amend the bylaws of the company, providing that the annual stockholders' meeting be held on the fourth Tuesday of March in each year instead of the first Tuesday. This will allow the reports of the subsidiary companies to be included with the annual report of the parent organization.

TEXTILE BALANCE OF TRADE

	January, 1925	January, 1924	7 months ending January, 1925	7 months ending January, 1924
EXPORTS				
Manufactures of:				
Cotton	$13,177,380	$9,256,105	$84,266,626	$74,596,264
Wool	376,450	586,574	3,110,410	5,311,051
Silk	1,053,968	1,025,874	8,404,924	6,401,632
Rayon	704,013	429,737	4,910,324	3,295,836
Flax, hemp, ramie, etc.	581,865	494,724	7,377,183	7,739,094
Total exports	$15,893,676	$11,793,014	$108,069,467	$97,343,877
IMPORTS				
Manufactures of:				
Cotton	$8,855,259	$7,591,751	$54,294,356	$54,184,465
Wool	4,844,499	3,725,147	33,822,288	32,563,418
Silk	2,381,727	2,813,447	22,865,117	26,433,183
Rayon	736,059	599,305	4,116,278	5,478,899
Flax, hemp, ramie, etc.	13,979,631	9,587,091	74,616,358	64,411,797
Total Imports	$30,797,175	$24,316,741	$189,714,397	$183,071,762
Excess of Imports over Exports	$14,903,499	$12,523,637	$81,644,930	$85,727,885

TEXTILE MARKETS IN BRIEF

Cotton Markets: **Advance in raw cotton has apparently removed possibility of cheaper cotton during first half year, and has resulted in good business on many classes of staple finished goods; buyers expected to operate quickly and freely on fall ginghams at 1c advance, and full distribution of present production seems assured; print cloth prices up with cotton, but business is not large; sheetings firmer, but quotably unchanged. Carded yarns advanced by spinners, though actual orders continue disappointing.**

Wool Markets: **Women's wear fabrics for fall in Dept. 4 of the American Woolen Co. will be opened next Tuesday. Before the month closes most other mills will have taken similar action. New fabrics may be seen because there is talk of overproduction on the established lines such as flannels. Men's wear opening is complete with high colors the center of interest and cheviots established. Woolens as a class hold their lead over worsteds. More worsted yarn inquiries; spinners prices lowered slightly; knitting demand small.**

Knit Goods Markets: **All branches quiet; all-fibre hosiery is firmer, though some lines have not been advanced; novelties dominate the hosiery business more and more each week. Underwear entirely featureless, with small-lot duplicate orders on light-weights continuing the principal activity. Fair buying of bathing suits for quick delivery; staple sweaters slow and novelties spotty.**

Silk Markets: **Silk trade in excellent position with stocks of finished goods, made up in anticipation of active spring season, practically all sold. Production geared up to high rate but mills still having difficulties in filling orders. Demand for prints continues unabated. Confidence in prices indicated by jobbers' large contracts for second quarter delivery. Manufacturers took advantage of dip in raw silk to place considerable business.**

Pertinent Spinning Queries

Questionnaire for Spinners Division of Southern Assn.

The following questionnaire for the Spinners Division of the Southern Textile Association which meets at the Chamber of Commerce, Charlotte, N. C., Mar. 13 has been sent out by the Chairman, Carl H. Harris, Inman (S. C.) Mills:

1. Why is it that the English Spinners can run with considerable higher relative humidity than we can without experiencing the resultant ill effects of lapping up, rusting rings, etc.?
2. What degree of relative humidity have you found gives you best results?
3. What outside shape and size bobbin will give best results for spinning 30s warp yarn, filling build with 1¾" ring?
4. Does it increase breaking strength to spin warp yarn with filling build?
5. Will you have less high bobbins if they are constructed to go further down on the shoulder of the spindle than is the customary practice?
6. What flange ring would you specify if renewing for 30s warp?
7. In an effort to improve the running of 42s filling spun from 1" cotton which would be the best from a mill standpoint, to change a 7" travis to 6", raise the spindle rail 1" and buy a 1" shorter bobbin. Or increase the diameter of the present bobbin ⅛"?
8. Will increasing the diameter of the bobbin ⅛" help the running of the spinning as much as reducing the size of the ring ⅛"?
9. Do your bolsters wear more on one side with the tape drive than with the band drive?
10. Do you know of any treatment for bands that will increase their life?
11. If you were renewing spindles on 30s and 40s would you specify clutch or plain spindles. Why?
2. What spindle speed would you recommend for 30s warp filling build made from 1" cotton? For 40s filling?
13. Is there any advantage to a light unweighted middle roll on medium counts made from around 1" cotton?
14. Will the crossing of the roving between the middle and back roll effect the running of the work to any extent?
15. How much pressure should we have on the different rolls for 30s and 40s yarn made from 1" cotton to get the best possible break and evenness?
16. What advantages can be derived from ball bearing top rolls?
17. Have you been able to run a reduced spindle speed with tape drive?
18. Have you had any experience with the new O flange ring?
19. Will a long draft cause more variation in numbers than a short draft?
20. What method of changing gears is used in your mill to keep the weight of the finished product right?
21. Will putting more than just enough twist in roving to keep it from stretching when pulling off help the running of spinning?
22. What is the biggest causes for gouts and slugs in yarn?
23. What are the biggest things you have done in the spinning room during the last year to reduce the variation.

TEXTILE WORLD Cotton and Wool Index Numbers

ALTHOUGH the increase in unfilled orders for cotton, wool and silk manufactures continues of moderate volume from week to week, it is steady and general and as compared with the aggregate volume of unfilled orders on January 1 or December 1 the increase is substantial. It is reflected accurately in a marked increased in the consumption of cotton, wool and silk, but as reflected in selling prices and compared with raw material costs and total conversion costs it is decidedly unsatisfactory to producers. The margin between raw material prices and selling prices of their manufactures is but little more satisfactory to producers than it was prior to the recent moderate declines in wool and silk, and both classes of textiles will remain safe buys even if there should be another unexpected decline in raw material prices equal to that which has already taken place.

The manufacturing margin on cotton yarns and cloths was grossly inadequate prior to the latest advance in raw cotton values, and if the latter is maintained or enhanced a substantial advance in prices of its manufactures will be forced. Some mills have been increasing production too rapidly, but the majority have been operating strictly on an order basis and have been buying cotton in the same manner.

There has been much less anticipation of raw material needs by the mills than usual, and this means that they will be in a good position to take advantage of any decline, and also to resist any permanent advance.

Fundamentals of the general business situation are as strong as at any time since the upward movement started, and there has been a further increase in farmer buying power that should expand the distribution of textiles more than that of most other manufactures.

COTTON INDEX NUMBERS

Date	Cotton	Yarns	Gray Goods	Colored Goods	Aver. for Cloths	Group Average
1914						
July 31	100	100	100	100	100	100
1919						
January	235	278	280	295	288	279
February	205	235	221	269	246	238
April	228	221	228	238	233	226
July	283	321	372	292	330	321
October	278	324	387	320	351	337
1920						
January	314	448	464	411	435	427
February	309	547	465	410	435	427
April	339	531	498	416	455	460
July	327	425	405	423	414	407
October	190	229	248	362	308	282
1921						
January	131	142	176	203	190	175
February	113	138	164	187	176	163
April	97.5	116	138	182	161	147
July	97.5	112	133	176	155	141
October	160	179	198	208	203	193
1922						
January	146	168	174	206	191	182
February	141	157	165	209	188	177
April	144	156	168	209	189	178
July	178	182	190	200	195	189
October	177	192	206	201	203	197
1923						
January	225	225	220	230	225	225
February	226	237	225	239	232	233
April	231	239	224	242	233	234
July	217	197	190	236	212	211
October	237	222	212	225	219	219
1924						
January	278	241	228	243	236	239
February	256	220	208	207	208	212
April	220	211	192	194	193	198
July	270	198	186	191	189	196
October	195	196	187	189	188	190
1925						
January	192	197	195	178	184	187
February	197	196	195	174	185	187

THE FEBRUARY INDEX NUMBERS

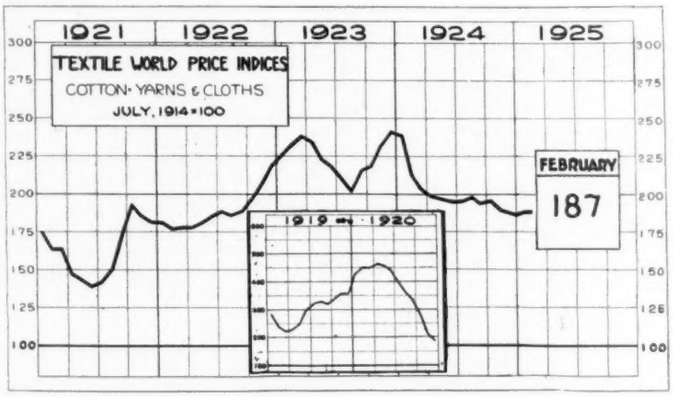
THE February feature of the cotton series of indices is that while the raw cotton index advanced five points in February the yarns and cloth indices were practically unchanged from the January average; actually at the close of the month yarns were a few points off and cloths a few points up, while raw cotton had advanced fully 10 points above the February average.

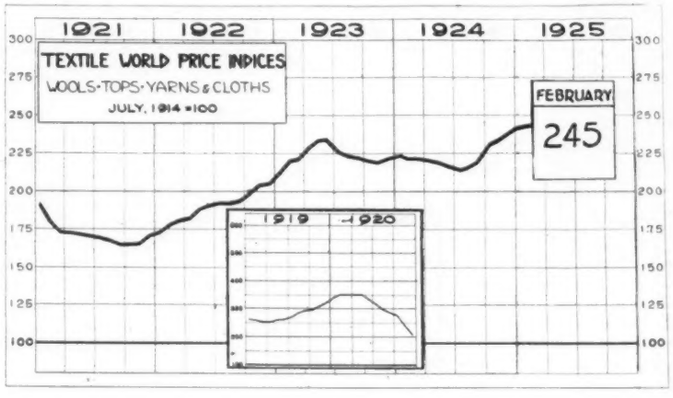
The raw wool index, being based upon values of domestic wool, never equalled the recent advance of wool in foreign markets, and the decline to 259 for February shows how moderate has been the actual decline in the domestic market. Current values of raw wool not only warrant the moderate advances to date in yarns and cloths, but more radical advances.

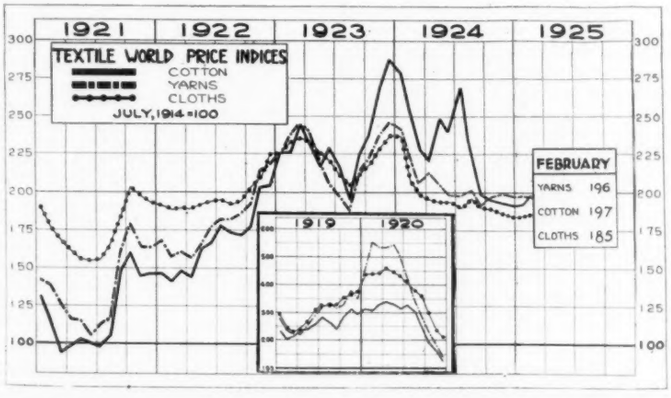
Inquiries regarding interpretation and use of the index numbers may be addressed to TEXTILE WORLD, Statistical Dept., 65 Franklin St., Boston, Mass.

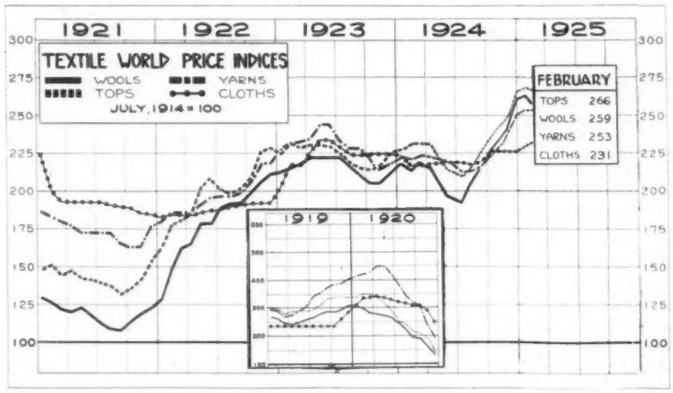
WOOL INDEX NUMBERS

Date	Wool	Tops	Yarns	Cloth	Group Av'ge
1914					
July 31	100	100	100	100	100
1919					
January	272	296	290	237	273
February	263	283	285	237	259
April	242	282	273	237	253
July	269	290	238	237	272
October	286	338	384	240	294
1920					
January	304	335	412	310	336
February	292	345	419	331	348
April	276	334	448	331	352
July	241	258	384	320	315
October	189	213	362	304	276
1921					
January	129	148	186	224	193
February	127	152	183	200	180
April	120	148	177	192	173
July	112	139	172	192	170
October	114	135	162	188	165
1922					
January	128	163	179	182	173
February	148	177	185	184	179
April	165	185	185	184	182
July	189	202	196	188	193
October	199	209	208	191	199
1923					
January	212	225	227	203	213
February	215	231	230	216	221
April	222	230	234	225	228
July	222	223	233	228	227
October	205	213	222	224	220
1924					
January	217	227	221	223	223
February	217	230	222	219	222
April	216	230	223	219	221
July	191	209	212	219	213
October	227	237	224	226	228
1925					
January	264	268	253	228	244
February	259	266	253	231	245









THE PERSONAL PAGE

John S. Lawrence, of Lawrence & Company, dry goods commission merchants, Boston, Mass., and vice-commodore of the Eastern Yacht Club, is planning to sail for Norway the latter part of the month where he will inspect his new schooner "Advance" which is being built in that country after designs by an American firm.

Alexander Long, president of the Aragon-Baldwin Cotton Mills, Chester, S. C., has been appointed to serve on the state endowment fund committee in the drive by the American Legion for approximately $35,000, which will go to a proposed fund of $5,000,000 for the relief of disabled veterans and widows and orphans of veterans.

Arthur Wheelock, president of the Stanley Woolen Co., Uxbridge, Mass., has been elected president of the Blackstone National Bank of that town to succeed the late William E. Hayward, president of the Schuster Woolen Co., East Douglas, Mass. William L. Hayward, president of the Hayward Woolen Co., East Douglas, Mass., succeeded Mr. Wheelock as vice-president.

Calvin D. Paige, for many years president of the former Central Mills Co., Southbridge, Mass., retired from Congress on March 4 after serving 12 consecutive years as representative from the Third Massachusetts District.

Edwin Farnham Greene, treasurer of Pacific Mills, Lawrence, Mass., and Mrs. Greene, sailed from New York City last week for Italy.

Charles Harding of Harding, Tilton & Company, dry goods commission merchants, Boston, Mass., has been at his winter residence in Palm Beach, Fla., for several weeks.

Harry F. Warner, formerly president of the Warner Underwear Co., Reading, Pa., has engaged in the coal business, following disposal of his mill.

Spencer Borden, Jr., treasurer of the Fall River (Mass.) Bleachery, and rear-commodore of the Eastern Yacht Club, Marblehead, Mass., has purchased the famous racing schooner "Ingomar," which won the Astor cup for schooners in 1903. The boat has been completely overhauled and comfortably fitted up.

George Delano, treasurer of the Bourne Mills, Fall River, Mass., who was given an extended leave of absence early in the winter on account of ill health, is reported as greatly improved under the warm climate of Southern California and is said to be contemplating returning early in the spring.

H. Y. Mac Neil, treasurer of the Fonda (N. Y.) Glove Lining Co., sailed Feb. 25 for a cruise of the West Indies which will include visits to principal South American ports.

Roscoe S. Milliken, agent-emeritus of the Nashua (N. H.) Manufacturing Company and a member of the New Hampshire state legislature, was largely responsible for the defeat in the lower house of that state last week of a bill designed to reduce legal weekly working hours in factories from 54 to 48 hours.

George H. Howard, of the law firm of Simpson, Thatcher & Bartlett, has been elected a director of the All-Russian Textile Syndicate, Inc., New York, to succeed Thomas D. Thatcher, who has been appointed a judge of the United States District Court for the Southern District of New York.

Vincent P. Roberts, the well known wool importer of 232 Summer Street who has been touring Europe, accompanied by his wife and younger son, sailed for home from Havre, March 18. In addition to the Holy Land, Italy, Germany and Holland have been visited.

Earle Mauldin, of Greenville, S. C., resigned his position with J. E. Sirrine & Co., engineers, effective March 1, to become vice-president and general manager of the firm of W. M. Welch, Inc., general contractors, with offices at 508 Woodside building, Greenville. Mr. Mauldin has been connected in various capacities for 19 years with the firm of J. E. Sirrine & Co. He is an associate member of A. S. M. E. and A. S. C. E. During the last three textile machinery shows in Greenville, Mr. Mauldin has acted as executive manager of the Southern Textile Exposition at Textile Hall. He is widely known among southern mill executives as a successful engineer.

Michael F. Dunn, treasurer and manager of the Rodney Wallace Co., Fitchburg, Mass., has been elected a director for two years of the Fitchburg Chamber of Commerce.

E. Benjamin Armstrong, agent for the Hamilton Woolen Co., Southbridge, Mass., spoke on "What the Purchasing Agent Can Do for the Woolen Manufacturers" at the recent dinner meeting of the Worcester County (Mass.) Purchasing Agents Association.

Roger Pierce, vice-president of the New England Trust Co., Boston, has been added to the list of directors of the Nashawena Mills, New Bedford, Mass. Other directors chosen at the annual meeting are William Whitman, I. Tucker Burr, William W. Coriell, Livingston Davis, William B. Gardner, Franklin W. Hobbs, Robert A. Leeson, Charles W. Leonard, E. Kent Swift and Malcolm D. Whitman. All officers were reelected.

Among the prominent Philadelphians well known in the textile industry recently visiting Belleair, Fla., were Henry C. Legge, of Percy A. Legge; H. W. Butterworth, Jr., of H. W. Butterworth & Sons Co., and John Bromley of John Bromley & Sons, Inc.

J. H. Daingerfield, Gastonia Cotton Yarn Co., Philadelphia, one of the leading trap shooters in this vicinity, was tied for second place in a match held at the Quaker City Gun Club, Feb. 23.

William O. Aldrich, superintendent of the Whitin Machine Works, Whitinsville, Mass., left on Feb. 28 for a trip to Pinehurst, N. C., after which he will visit the corporation's Southern office in Charlotte, N. C.

J. L. Williams has been appointed superintendent of the Panola Cotton Mills, Greenwood, S. C., to succeed J. Westmoreland.

William Douglas, superintendent of the Adams Mfg. Co., Shelton, Conn., has resigned his position with that company.

Thomas Rider has accepted an executive position with M. Waterbury & Sons Co., felt manufacturers, Oriskany, N. Y., after resigning as superintendent of the finishing department of Finch, Pruyn & Co., Glens Falls, N. Y.

B. J. Murphy, formerly agent of the Ramshead Yarn Mills of the American Woolen Co., Lowell, Mass., has accepted a position as superintendent of the Edgeworth Mills, Worcester, Mass.

T. B. Reynolds is now superintendent of the plant of the Wellman Cotton Mill Co., which recently resumed operations after a long idleness.

William C. Melcher, superintendent of the Bally (Pa.) Ribbon Mills, Inc., and Miss Gertrude Lee, of Chester, Pa., formerly of the staff of the Misericordia Hospital, Philadelphia, were married recently at Chester by Rev. Charles J. Melcher, of Villa Nova, brother of the bridegroom. The couple will live at Bally, after a wedding trip to Washington and the South.

Theodore Froehlich has taken a position as superintendent of the Kutztown, Pa., mill of the Amalgamated Silk Corp., succeeding Charles W. Moyer, resigned. Mr. Froehlich was formerly connected with the Schwarzenbach-Huber Co., at Bayonne, N. J.

J. L. Kaneer, superintendent of the Millis Cotton Mills, Inc., High Point, N. C., was married Feb. 28, to Miss Fay Horney, of that city. The couple are spending their honeymoon in New York and other eastern cities.

C. H. Lockman has succeeded N. J. James as superintendent of the Henrietta Mills No. 2, Caroleen, N. C. Mr. Lockman was formerly connected with the Union-Buffalo Mills Co., Inc., Union, S. C.

The Greenville (S. C.) Textile Club, of which the superintendents and overseers of mills near Greenville are members, held its monthly dinner and business meeting on the evening of March 27 at the Parker High School. W. D. League, president of the club, presided over the session. C. W. McSwain of the Steel Heddle Mfg. Co., and H. B. Jones of the Union Bleachery spoke on technical subjects. J. A. Jackson of Brandon Mills made a memorial address outlining the life of the late T. M. Bennett of Brandon Mills. The Hawaiian band, a new musical organization from the Dunean Mills' community, furnished the music for the occasion. President League appointed the following committee chairmen to serve for a year: W. H. Moseley, program; J. A. Jackson, health and happiness; J. D. Whitmire, reception; and L. P. Hollis, entertainment.

J. A. Short, assistant superintendent of the Altavista (Va.) Cotton Mills, has resigned that position and has been succeeded by J. T. Copeland.

M. Glennon has taken the position as assistant superintendent and designer for the Chambersburg (Pa.) Woolen Mills. Mr. Glennon comes from Springfield, Mass.

H. C. Weymouth, overseer of spinning for the Riverina Mills (American Woolen Co.) Medford, Mass., has resigned.

Albert Ainley has accepted the position as overseer of weaving for the Northboro (Mass.) Woolen Mills.

J. A. Norris is now overseer of spooling in the Loray Division of the Manville-Jenckes Co., Gastonia, N. C.

W. G. Cash, overseer of spinning in Mill No. 3 of the Georgia-Kincaid Mills, Griffin, Ga., has resigned that position.

Robert Walshaw has accepted the position as overseer of dyeing for the Lincoln (Me.) Woolen Mills. Mr. Walshaw formerly worked at Claremont, N. H.

John Arnold has returned to his former position as overseer of carding in the Ensign Cotton Mill, Forsyth, Ga.

James Quinn has taken the position as overseer of spinning for the Beacon Woolen Co., Enfield, Mass. Mr. Quinn comes from Millbury, Mass.

E. M. Miller has resigned as overseer of spinning in the Aldora Mills, Barnesville, Ga., to accept a similar position in the Georgia-Kincaid Mills, Griffin, Ga.

John H. Scully, overseer of weaving for the Northboro (Mass.) Woolen Mills has resigned his position with that company to accept a similar one with the McCurn Yarn Mills, Worcester, Mass.

Arthur Hubert has taken the position as overseer of finishing for the Dartmouth Woolen Mills, Claremont, N. H. Mr. Hubert comes from Keene, N. H.

W. E. Scott, who resigned as superintendent of weaving at the McCleary, Wallin & Crouse branch of the Mohawk Carpet Mills, Inc., Amsterdam, N. Y., has embarked in the grocery business at Hagaman.

G. M. Farell has been promoted to the position of overseer of winding, slashing and drawing-in at the Morven Cotton Mills, Inc., Durham, N. C.

R. C. Johnson, overseer of the cloth room of the Swift Mfg. Co., Columbus, Ga., has resigned.

W. F. Ballard has taken a position as overseer of carding for the Pinkney Mills, Inc., Gastonia, N. C.

The annual gathering of the overseers and second hands of the cotton mills of Bliss, Fabyan & Co. took place Wednesday evening, March 4, in the recreation hall in Thorndike, Mass. The mills represented included the Otis Co. of Ware, the Cordis Mills of Millbury, Warren Cotton Mills of West Warren, Palmer Mills of Three Rivers, Boston Duck Co. of Bondsville and the Thorndike Co. of Thorndike. There was an entertainment, followed by a bowling contest.

POWER AND ENGINEERING SECTION

Standardization of Textile Mill Lubrication

Reclamation of Lubricants—A Paying Proposition, Not Only from Viewpoint of Oil Saving, but Also as a Matter of Protection to Machine Wearing Parts—What Oil Purification Consists of and How It Is Effected—Description of Systems

By *Allen F. Brewer*

This is the third of a series of articles dealing with lubrication problems of textile mills. The first two articles appeared in the December 6, 1924, and the January 3, 1925, issues. The present discussion takes up the reclamation of oils, considering the subject from the angles of lubrication economy and protection to machine wearing parts. Further articles in this series by Mr. Brewer will discuss lubricating equipment and methods to be employed in various mill departments.

AS a general rule, the question as to whether the purification of lubricating oils will pay or not, depends to a large extent upon the rate at which contamination occurs and the necessity for using pure, uncontaminated lubricants. If it is cheaper to purchase comparatively low grade oils, such as the moderately priced black and red oils, throwing these away at periodic intervals as they drip through, or are drained from the bearings, then oil purification is an extravagant refinement, unwarranted by the lubricating requirements of the equipment involved.

On the other hand, if not only for the sake of insuring efficient, continuous operation, but also of protecting certain of the products in their passage through the mill, it is advisable to use as clean, uncontaminated oils as possible, then the purification of these latter is a decided adjunct to economical production.

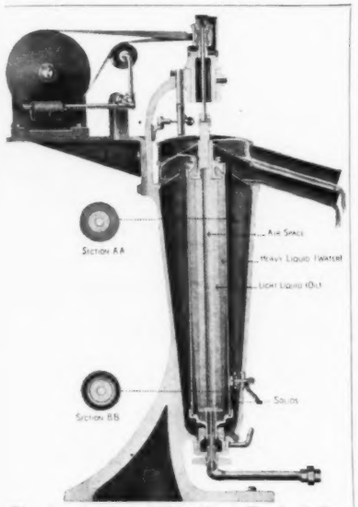


Fig. 1. Sectional Detail of Typical Centrifugal Purifier

Prevents Wear and Damage

In the textile mill these two phases of operation require consideration in that they are both so vitally a part of efficient production. Wherever steam power is involved, that is, wherever the mill operates its own engine room for the purpose of generating electricity or driving productive machinery, engine oil purification becomes one of the salient points of operation. Likewise, in the mill itself, spindle, loom and knitting oils should be given equal attention, for just as they will tend to become laden with dust, dirt and other foreign matter, so will they tend to drip, splash or be thrown onto the material.

In general, the oil purifier has been regarded by most of us as a distinct adjunct of the power plant. That pure uncontaminated oils are needed for our turbines, oil engines and steam engine bearings, is an undisputed fact. An engine room today without some form of purifier is in reality years behind the times, and the management is certainly paying for this neglect in the form of upkeep and maintenance costs. But the idea of purifying oils used in many industries on productive machinery has, strange to say, been conspicious by its absence. Perhaps this has been largely due to the nature of the bearing surfaces involved, the relatively low volume of oil required for their lubrication, and the extravagant belief that it was cheaper to throw away any used oils, replacing them with new products which often cost quite as much as the best steam turbine oil on the market today.

At any rate, such operation does not work to the best interests of the product, the machine and the pocketbook. Therefore, it would certainly seem logical to look into this matter of oil purification in the mill itself, from the dual point of view of not only attaining better and cheaper lubrication, but also of protecting the goods as far as possible against the occurrence of oil spots which often are so evident as to make abnormal waste or the run of seconds a costly necessity.

It is not enough to merely set up guards against splashed or dripped lubricants; nor to see that the operators wipe these latter up promptly when they occur. Sooner or later, a guard will be misplaced, or the machine operator will have a desire to gossip with his neighbor overly long. Then several yards of expensive goods will very likely suffer. Far better would it be to provide means of draining all oil receptacles periodically, substituting new or purified oil in turn, and passing the contaminated drainings through a purifier or filter. Were this done at regular and frequent intervals, the possibility of carbonaceous matter, dust and dirt accumulating in excess would be remote. In combination with such a plan, were grease substituted on all bearing surfaces, such as guides, slides, cams, etc., which involved practically a total loss to the lubricant after it had once passed through the machine, the maximum protection of the goods would be insured.

What Purification Comprises

In view of the possible benefits to be gained in the textile mill by more careful attention to the purification of lubricating oils, it will certainly be of interest to look further into this matter, not only from the viewpoint of what it comprises, but also, how it is effected. In the beginning, oil purification was essentially confined to turbine and engine oils. Research and experimental work had been indicative of the fact that it was perfectly possible to bring certain grades of mineral lubricating oils back to their original state of purity by careful cleansing and purification. So it was quite natural that the results of such experiments should be extended to every-day operation. The power plant was the heaviest consumer of high grade lubricants, and these latter lent themselves most readily to purification. Therefore they received the most consideration. In part this was also due to the fact that on power plant machinery, flood lubrication was becoming the standard of operation.

The purpose of flood lubrication is two-fold; i. e., to lubricate and to carry away heat from the bearings. Both are seriously interferred with in the event of the oil carrying any appreciable volume of foreign matter, for the reason that this latter in the form of water, dust, dirt, oxidized oil and acidity ultimately leads to the formation of emulsions and sludges, which not only clog up the oil passages but tend to break the lubricating film and otherwise defeat the object in view. So their removal is a practical necessity.

In general, the cleansing of lubricating oils is identical with purification or their separation from foreign matter. To attain the desired end, impurities may be removed either by taking advantage of the existent difference in specific gravities, the use of some filtering medium, or the action of centrifugal force. While any one of these can be used alone with comparative satisfaction, in general, filtration and precipitation are combined in the one machine. In turn this latter can often be very effectively used in conjunction with a centrifugal purifier.

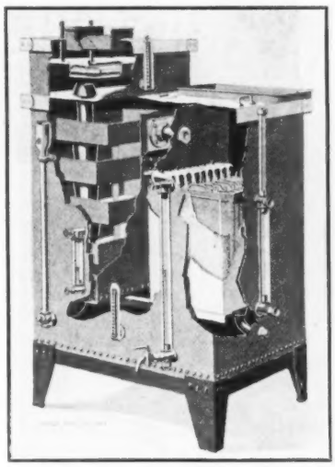


Fig. 2. Cut-Away View of a Modern Oil Filter: Precipitation Trays at Left: Filters at Right

All are so effective commensurate with the time element, that it is not fair to attempt to make any comparison as to their relative value. As can be appreciated, precipitation will, as a rule, take the longest for this reason; it is combined with filtration. By heating the oil, to a certain extent, the preliminary precipitation of the larger particles of foreign matter is

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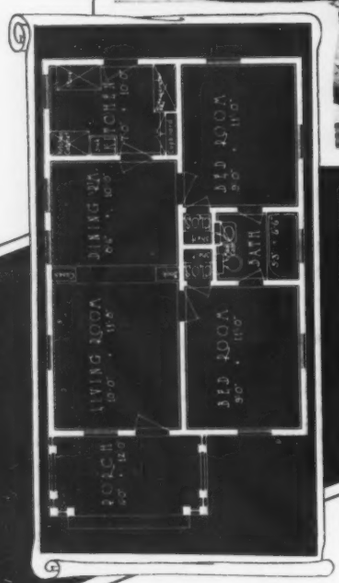

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effected in a relatively short space of time. The oil can then be passed to the filters, where the time element is relatively unimportant, and purification completed by the removal of the lighter impurities. The efficiency of filtration will of course depend upon the fineness or porosity of the filtering medium. This latter may be either a fabric or some form of wire mesh.

Extent of Purification

The extent to which an oil should be purified must of course be taken into consideration when deciding upon the fineness of the filtering medium and the rate at which the oil is to be passed through the machine. It should be borne in mind that perfect separation is not necessary. Any oil, after it has been in service but a few hours, will have become contaminated to a certain extent. Research has proven that this is not dangerous or objectionable just so long as the percentage of impurities is not allowed to rise abnormally. So it is generally customary to use the oil purifier as a means of keeping the impurity content within a recognized safe limit, rather than as a complete eliminator of foreign matter from the oil.

While filtration is apparently the more effective means of purification, due to the speed at which it can be carried on, we must remember that very often certain impurities will be so fine as to preclude their complete removal by the filter. Such impurities may be of sufficiently higher specific gravity than the oil to insure effective precipitation. Therefore this latter should not be slurred over too rapidly in the belief that it is relatively unimportant.

But filtration is by no means an absolutely necessary adjunct to precipitation. Centrifugal force can be very readily adapted to bring about the same results. In other words, as a means of separating substances of different specific gravities, centrifugal force expedites the action of gravity very materially. Of course, this is to be expected by virtue of the greater force involved. As a result, applied to the purification of lubricating oils, centrifugal force effects a positive separation from contaminating foreign matter in a very few minutes, which simple precipitation and the action of gravity would not bring about over perhaps several days of settling.

As in the operation of the oil filter, it has been developed that heating an oil to a certain extent facilitates the separation from impurities by the centrifugal purifier. Not only is the viscosity of the oil reduced to permit foreign matter and water to be more easily thrown down, but also it is claimed that emulsions are more readily dissipated and broken up. The extent to which any oil should be heated will depend largely upon its original viscosity and the nature of the foreign matter. While perhaps 150 deg. Fahr. may be regarded as an arbitrary average, this is by no means definite. We can, for example, easily appreciate that a spindle oil of perhaps 100 seconds Saybolt viscosity at 100 deg. F. will not require the same viscosity reduction as a 500 seconds viscosity engine oil. Therefore it will not require preheating to the same extent.

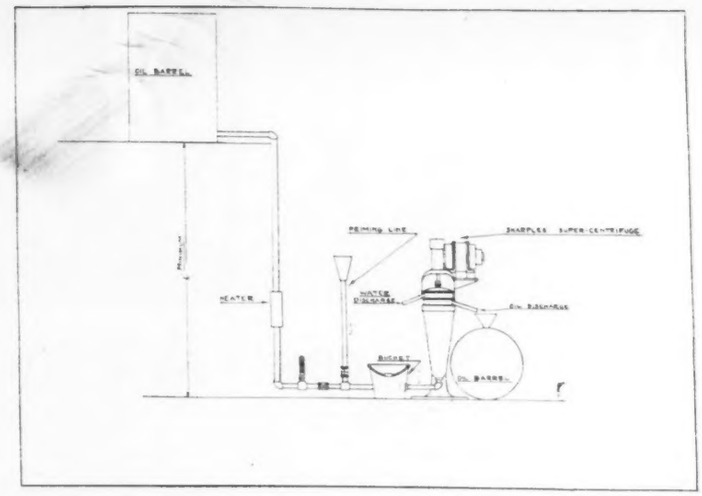

Fig. 3. Installation for Reclaiming Small Batches of Lubricating Oil

Methods of Application

It has been developed that oil purification in general will require the use of one of two types of machines; i. e., a filter involving a combination of precipitation and filtration, or a centrifugal purifier. In discussing the application of these devices, no attempt will be made to advance any personal views, but rather a summary of good practice as developed by representative manufacturers of such equipment and consumers of lubricating oils will be given.

The use of any system will depend upon the class of service involved and the results desired. To attain these latter, the oil may be treated in any one of three ways:

(a) By purifying the entire batch periodically.

(b) By purifying the entire batch continuously.

(c) By by-passing a certain percentage of the most heavily contaminated oil only for purification, allowing the remainder to circulate through the lubricating system.

Batch purification provides for the periodic removal of all the oil from the lubricating system for cleaning, replacing it meanwhile with a clean charge of oil. This method is entirely practical, though naturally subjected to limitations dependent on the amount of oil and the operating conditions involved. In general, it requires the closing down of the machinery while the dirty oil is being withdrawn and the clean oil substituted. Furthermore, the oil in the system is usually allowed to remain until it becomes very dirty and often contaminated with considerable water. This may often be a detriment, especially where high bearing speeds and pressures are involved, as in the steam turbine. Another objection in many cases is that the opinion of the operator may be the only criterion as to when the oil is dirty enough for purification. Therefore, carelessness or ignorance may be the ultimate cause of considerable damage to bearings and the machine in general, not to speak of the time lost due to the equipment in question being out of service for repairs.

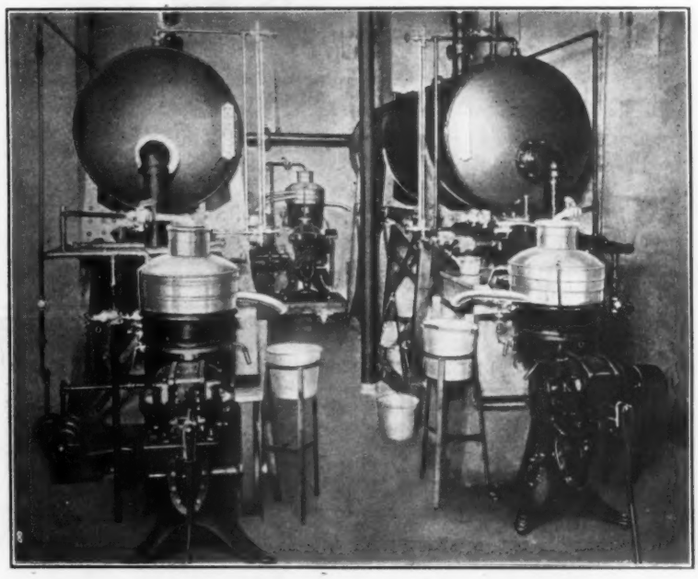

Fig. 4. How a More Imposing Oil Reclaiming System Appears

Where a batch system is employed, the oil must be drained from the reservoir, to suitable settling tanks as conditions may require. It is then usually passed through a preliminary screen in order to remove coarser particles of foreign matter. In the settling tanks a certain amount of precipitation occurs, the oil being heated, if necessary, by means of steam or hot water coils. After this the oil can be passed through some form of filtration unit or centrifuge.

Batch purification is of distinct advantage in that it usually permits of the use of whatever amount of time is necessary for adequate precipitation to take place, without undue disturbance of general plant operation. It could be applied to practically any phase of textile mill service with the exception of those plants where operation and production must be continuous and where shutdowns would be undesirable. It might also be unsuited to larger, continuously operating steam turbines, or other mill engine room equipment, in plants of the above character.

Continuous Treatment

In such cases the oil would therefore have to be subjected to continuous treatment, as has been stated. This may either involve the entire body of oil in the system, or only a certain percentage of it as in the continuous by-pass method. Where straight continuous purification is involved, the entire volume of the oil is passed through the cleansing apparatus each time it is pumped through the system. Thus the possibility of foreign matter being forced into the bearings is practically eliminated.

Continuous filtration or purification of lubricating oils, however, is limited in general to smaller volumes of oil. Equipment and tankage necessary becomes a serious item. Furthermore, space must also be considered, inasmuch as the average filter and necessary storage tanks required will occupy quite an extensive area. Of course in plants having considerable floor space, with adequate provision for overhead storage, we would only be concerned with the volume of oil involved.

In view of these facts, power plant oil purification has leaned towards the partial or continuous by-pass method. It is logical to presume that it would be equally successful in connection with textile mill machinery. In effect, the continuous by-pass method of purification involves the continuous removal or by-passing of from

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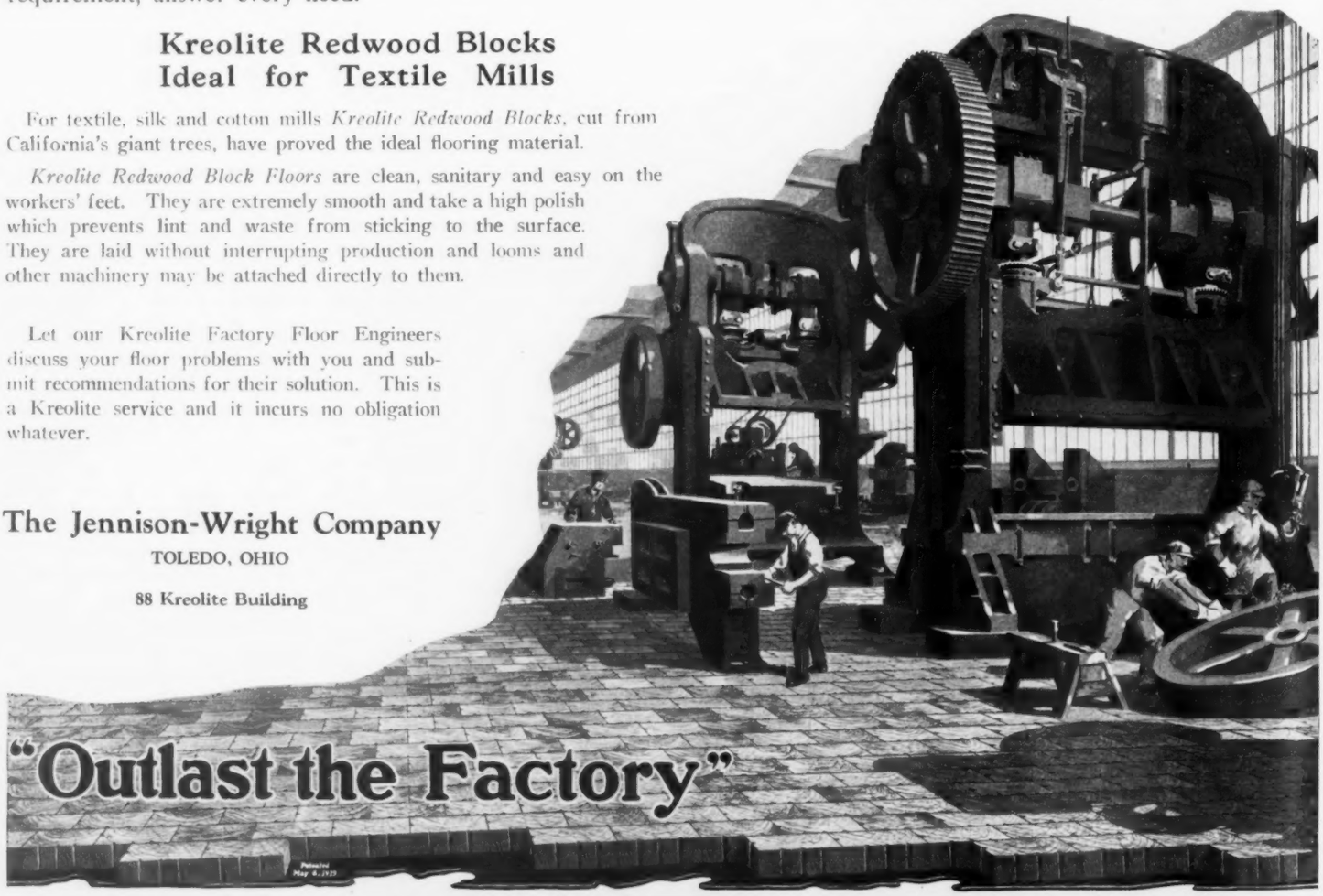

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ten to twenty per cent of the oil in the system by means of a suitable connection installed in the base of the system. This is lead to the settling tanks, filter or centrifugal. Here this volume of oil is separated from dirt, water, sludge, emulsified matter, etc., in fact all impurities which might tend to impair effective lubrication. In general the oil should be drawn off from the lower part of the lubricating system sump tank in order to get as much of the heavier impurity-laden oil as possible.

As to the amount of this latter that it will be necessary to by-pass, it is well to state that naturally this will depend upon the grade of oil in use, the rate at which water and other impurities enter it, the rate at which the oil is being circulated, the type and condition of the bearings, and the total amount of oil involved. After suitable purification, the by-passed oil is returned to the system at the top of the sump tank.

The continuous by-pass method of oil purification, of course, does not insure that all the oil in the system will be absolutely pure. It does insure, however, that a certain extent of purity will be maintained throughout operation. Research has proven that only during the first few hours after fresh oil is put into service, or where the oil is purified after each circulation, is relatively pure oil being used. After this a certain amount of impurities will be present. Unless in excess, however, these are normally not detrimental to lubrication. Hence the continuous by-pass method of purification, which serves to keep the impurity content within certain safe limits, is absolutely dependable.

Oil Reconditioning Systems

Having become familiar with the several methods of oil reclamation in use today, a brief description of the accepted types of oil reconditioning equipment will be of interest. Of these, there are distinctly two; the oil filter wherein precipitation and filtration are combined; and the centrifugal purifier which works on the principle of centrifugal force.

In the oil filter, the dirty oil passes first through a strainer box. Here preliminary separation of foreign matter occurs. Then, if necessary to reduce the viscosity, the oil is led to a heating tray. After that, it is ready for the first real stage of reconditioning, which is attained by passing it upward in a zig-zag path at a relatively slow rate of speed over a series of staggered precipitation trays. A considerable amount of solid foreign matter and practically all the water is removed by these trays, being led off through suitable discharge drains.

After passing over the topmost tray, the oil is then passed to the filtration compartment. Here are contained a number of rigid vertical filter units, usually consisting of finely woven cloth. These complete the reclamation or cleaning of the oil, so it is important that they be durable, not subject to clogging, capable of maintaining a clean exposed surface, readily replaceable and inexpensive. After being forced through these filters, the oil will usually be ready for re-circulation through the lubricating systems of the machines to be lubricated.

The centrifugal oil purifier, in turn, consists essentially of a vertical cast iron frame in which a spindle carrying a cylindrical or tubular bowl revolves. Rotation of the bowl with its content of oil enables the action of centrifugal force to come into effect, the result being that oil, water and dirt are thrown to the outermost edge, being separated by virtue of their difference in specific gravity. Above the bowl are installed a number of covers, as a rule, each fitted with a suitable spout. Through these the various separated fluids are discharged. When used as a purifier, the separator accumulates water in the lower cover. Purified oil in turn accumulates in the second cover to be subsequently discharged through its respective spout. In a three-cover purifier the top cover serves as an overflow, functioning only in event of excessive accumulation of dirt.

Conclusion

We have seen the possible extent to which oil reclamation can be extended to textile mill service. In this connection we must not lose sight of the fact that whatever service an oil may be put to, it will practically always become contaminated with dirt, dust, metallic particles and very possibly water and sludge. These should be removed, otherwise the oil will fall off markedly in lubricating value, with a consequent increase in frictional losses and power consumption.

Certain grades of textile mill lubricants, such as spindle oils and the turbine and engine oils of the power house, are without a doubt worth saving. To throw away such oils merely because they have become contaminated would be decidedly extravagant. Hence the oil reclaimer should be drafted into service. It is certainly a paying proposition, not only from the viewpoint of the value of the oil saved, but also as a matter of protection of machine wearing parts. Do not ever lose sight of the fact that the cost of effective lubrication, and the maintenance of certain grades of oils in a suitable state of purity, is certainly far below the average cost of upkeep and repair.

The author is indebted to S. F. Bowser & Co., Inc., DeLaval Separator Co., and Sharples Specialty Co. for the accompanying illustrations. Fig. 1 shows a sectional detail of a typical centrifugal purifier adaptable to not only the reconditioning of textile oils but also those used in the power plant. Fig. 2 is a cut-away view of a modern oil filter. Note precipitation trays at the left, with the filters in the compartment at the right. This is a very effective piece of equipment.

Fig. 3 is a line sketch of an installation for reclaiming small batches of lubricating oil. This layout could very easily be adapted to the textile mill. Note the simplicity of the entire arrangement. Fig. 4 shows how a more imposing oil reclaiming system would appear in actual operation. The space required for such an installation is clearly brought out in this photograph.

Power Data Sheets

By *F. S. Root*

POWER REQUIRED TO OPERATE RING SPINNING FRAMES 5

TEST "F"

MOTOR. 20 H.P., 1200 R.P.M. 550 Volts, 60 cycles, 3 phase.
DRIVE. Group.
LOAD. 6 Frames of 252 Spindles each, 1¼ Rings, Tape Drive.
SPINDLE SPEEDS.
Frames 1, 2, 5 & 6 = 8900 R.P.M.
" 3 & 4 = 8300 "

TEST DATA

LOAD	H.P. INPUT
Motor and Shafting	6.3
Frame No 1 added	11.5
" No. 2 "	17.5
" No. 3 "	21.5
" No. 4 "	26.5
" No. 5 "	32.5
" No. 6 "	37.5

Spindles per H.P. allowing for motor efficiency of 85% = 48 Spindles per HP

TEST "G"

MOTOR. 75 H.P., 900 R.P.M. 550 volts 60 cycles, 3 phase
DRIVE Group
LOAD. 9 Frames of 240 Spindles each 1⅝ Rings, Tape Drive, Sp. Speed 10,000

TEST DATA

Motor and Shafting ----- 16.7 HP Input
3 Frames added ----- 35.1 " "
6 Frames at work ----- 54.6 " "
9 Frames at work ----- 75.1 " "
Spindles per net H.P. Input = 35.

POWER REQUIRED TO OPERATE RING SPINNING FRAMES 6

PRODUCTION TESTS

Direct-connected motor drive, versus Mechanical Drive from Steam Engine.

GENERAL DATA

MOTOR-DRIVEN FRAMES.
Five Mason Mch. Co. Frames, 176 Spindles each, 1⅝" Rings. Spindle speed, 9000 R.P.M. Front Roll, 108 R.P.M. Spinning 32's Warp Yarn. Motors were 5 HP 1730 R.P.M. Westinghouse, Morse Silent Chain Drive.

MECHANICALLY DRIVEN FRAMES.
Five Mason Mch. Co. Frames, 176 spindles each, 1⅝" Rings. Spindle Speed, 8800 R.P.M. Front Roll, 101 R.P.M. Spinning 32's Warp Yarn, Belted from Line Shaft.

NOTE. Owing to independence from other drives in the mill, motor-driven frames during week of this test, operated overtime amounting to 19 hours, 20 minutes.

TEST DATA.

DAY	ELECTRICAL YARN	ELECTRICAL TIME	MECHANICAL YARN	MECHANICAL TIME
MON.	258 Lbs.	13 h. - 15 m.	141 Lbs.	8 h - 45 m
TUE.	172 "	13 - 0	92 "	8 - 45
WED.	225 "	12 - 35	139 "	8 - 45
THU.	174 "	12 - 5	89 "	8 - 45
FRI.	194 "	10 - 55	167 "	8 - 45
SAT	73 "	5 - 15	40 "	4 - 0
TOT	1096 "	67 - 5	708	47 - 45

POWER REQUIRED TO OPERATE RING-SPINNING FRAMES 7

PRODUCTION TESTS (CONT.)

Making necessary allowances for difference in operating hours, front-roll, and spindle speeds, the motor-driven frames produced 2.68 % more yarn than did the mechanically driven machines, in spite of the fact that the latter frames were operated by a much better spinner than were the former group. This difference in the skill of the operatives is shown in the following table

ENDS DOWN

MON.	ELECTRIC DRIVE 2	B	4	5	MECHANICAL A	B	C	D	E
8.30	6	1	10	9	4	5	0	5	1	3
10.10	6	5	13	1	3	2	3	2	2	3
TOTALS	58 ENDS DOWN				26 ENDS DOWN					

POWER REQUIREMENTS (FRAME No 3)

INPUT TO MOTOR IN K.W

TIME	K.W.	TIME	K.W.
10.30	2.8	1.30	3.0
10.45	2.8	1.45	3.0
11.00	2.8	2.00	3.0
11.15	2.8	2.15	3.1
11.30	2.8	2.30	3.1
11.45	2.8	2.45	3.1
12.30	3.1	3.00	3.1
12.45	3.0	3.15	3.1
1.00	3.0	3.30	3.2
1.15	3.0	3.45	3.2

Increase in power, empty to full bobbins = 14.3 %

POWER REQUIRED TO OPERATE RING SPINNING FRAMES 8

TESTS AT FOUR DIFFERENT MASSACHUSETTS MILLS

MILL	TYPE OF DRIVE ETC	SPINDLE SPEED (R.P.M.)	SIZE OF RING	SPINDLES PER H.P.
A	4 Frame Drive no shafting losses	10,000	1¼	63
		9,725	"	66
		8,810	"	88
B	Individual Drive, no shafting losses	5,150	2⅛"	63
C	Group Drive, all shafting losses included	9,000	1⅝"	50
D	Same as "C"	8,000	1⅝"	80

Above figures do not include motor losses

TEST "H"

MOTOR. 5 H.P. 1800 R.P.M. 550 volts 3 phase, 60 cycles. Belted direct to spinning frame.
LOAD. Whiting Ring Spinning Frame, 204 Spindles 2¼" Rings. Spindle speed 5150, Cylinder speed 795. Banding Drive Spinning #7 Cotton waste yarn

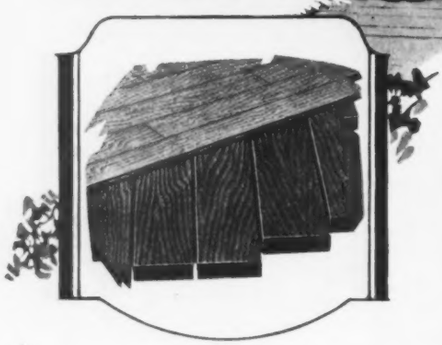
H.P. INPUT TO MOTOR, read every 10 min.

3.27, 3.30, 3.26, 3.27, 3.32, 3.29, 3.30, 3.35, 3.35, 3.35, 3.41, 3.58 (Bobbins full)
Empty bobbins 3.12, 3.13 (Stopped.)
Motor & Belt Losses = 0.55 H.P.

Above is presented the fourth installment of a series of power data sheets appearing in Power and Engineering issues of TEXTILE WORLD. In the first installment, which was published October 4, 1924, information was presented concerning power required by pickers, cards and combers. In the second installment, which appeared December 6, 1924, braiding machines and slashers were taken up; and in the third group, printed January 3, 1925, ring spinning frames were considered. In this issue, further data on ring spinning frames is offered. Future installments will contain the results of more tests on spinning frames and tests on other types of textile machinery. The information contained in these sheets is of a nature not commonly available and is, for that reason, of exceptional value.

Creo-pine

ARCADIA
MILL No. 2
Spartanburg, S.C.



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Pulverized Fuel Installation at Farr Alpaca

Description of Power Plant Improvements, Pulverizing and Burning Equipment at Farr Alpaca Company, Holyoke, Mass.—Increase in Power Facilities and Savings in Dye House Process Steam—Changes Made Without Interruption to Plant Operations—Coal and Ash Handling

THE Farr Alpaca Company, located at Holyoke, Mass., are manufacturers of mohairs, coat linings and dress goods. In 1922, they built a 70,000 spindle cotton yarn mill to make their cotton warps. The addition of this mill necessitated a large increase in power. At this time, they were operating a worsted spinning and weaving mill and a large dye house and finishing plant. These plants were located about 2500 feet from each other.

The worsted spinning and weaving mill obtained power from water wheels and also from steam turbines located at this mill. The dye house had a boiler plant in which were installed seven 200 H. P. and twenty 250 H. P. Manning vertical, hand-fired boilers and four 500 H. P. vertical Wickes boilers, stoker-fired.

In the dye house power plant there was one 1500 K. W. steam turbine, this power plant being connected by underground wires with the power plant of the spinning and weaving mill. The 1500 K. W. turbine exhausted into a surface condenser operating at about 5 in. of vacuum, and the condensing water was delivered into a 150,000 gallon hot water tank which supplied hot water to the dye house. The load carried on the 1500 K. W. turbine averaged about 1200 K. W. and was varied in order to keep the hot water tank supplied, the variation of load being cared for by the power plant at the spinning and weaving mill.

Dye House Steam

The dye house at this time required about 250,000 lbs. of steam per hour, which was supplied to the dye house at 80 lbs. pressure through reducing valves. It had been apparent to the engineers for a number of years that it would be economical to install a large steam turbine of the bleeder type at the dye house, and to pass the steam through this turbine and deliver it to the dye house at 15 lbs. pressure. There was sufficient steam flowing to the dye house at high pressure to supply all of the power needs of the company.

It was necessary to convince the superintendent of the dye house that 15 lbs. pressure could be as well utilized as the 80 lbs. pressure, and a long series of tests was made upon dye kettles to demonstrate that they could be operated at 15 lbs. pressure. These tests were conducted with automatic controls on the dye kettles and resulted in a considerable saving of steam over the old method of operating with 80 lbs. pressure and hand control.

When the cotton mill was built, it was decided that the time had come to utilize the steam flowing to the dye house through a bleeder type turbine. A 3500 K. W. turbine was installed and a complete revision of the boiler plant made.

It was the desire of the Farr Alpaca Company that, when the boiler house was revised, the most ecomical methods of handling fuel should be installed. Investigations were made to determine whether stokers or a system of burning pulverized fuel should be installed, and it was finally determined that pulverized fuel would be the best method to use.

A contract was entered into with the Combustion Engineering Corporation for the pulverizing and burning equipment and the design of the furnaces for the boilers. Four 1000 H. P. Wickes cross drum boilers were purchased to operate at 250 lbs. pressure, and superheaters were purchased from the Superheater Company to operate in connection with these boilers.

Fig. 1 is a plan of the boiler house as it existed before the installation of the pulverized fuel equipment and new boilers. At this time, coal was brought in from a coal pile to point "C," was there dumped into a coal hopper, passed through a crusher and into an elevator, and was delivered by a conveyor into an overhead coal bunker in front of the Wickes stoker-fired boilers. The coal for the Manning boilers was delivered on the same track and dumped into coal bunkers in front of the Manning boilers, from which it was hand-fired. The ashes from all of the boilers were delivered by elevators and scraper conveyors to an ash bunker at point "D."

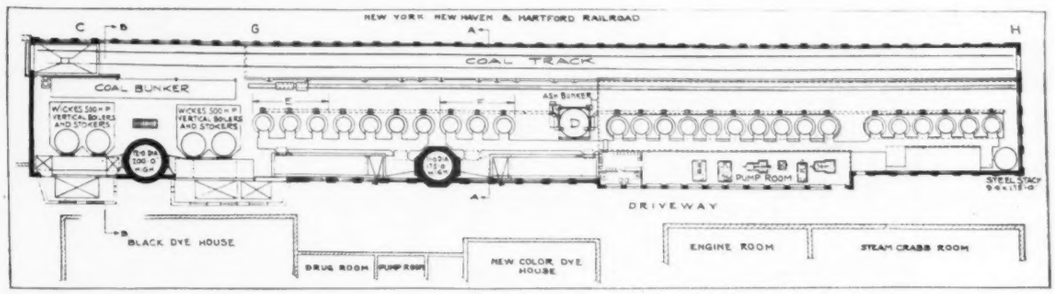

Fig. 1

It was necessary while installing the new boilers to arrange so that there would be no interruption to the dye house operation. Three Manning boilers were removed from point "E," Fig. 1, to provide space for installing one complete pulverizing equipment. The entire boiler house roof from point "G" to "H" was raised to provide head room for pulverizing equipment and the new boilers. Three boilers were removed from point "F" to provide room for the installation of the first 1000 H. P. new boiler.

The old pump room, Fig. 1, was kept in operation until two of the 1000 H. P. boilers were installed and operating. Then Manning boilers were removed to provide space for the new pump room, Fig. 2, and when the two new boilers were placed in operation, boilers were removed for the third and then for the fourth boiler.

The coal for the pulverizing equipment is delivered by the same apparatus that delivered coal into the overhead bunker in front of the Wickes stoker-fired vertical boilers, by extending the conveyor to an elevator over the pulverizing equipment, which delivers the coal over a magnetic separator into a crushed coal bunker shown on Fig. 2, Section M-M. From the bottom of the crushed coal bunker, the coal passes down through three dryers, the drying being done by the flue gases which are drawn from the smoke flues through these dryers by a fan shown on Fig. 2 and Section J-J. From the bottom of these dryers, the coal passes into three Raymond roller air separating mills and is delivered

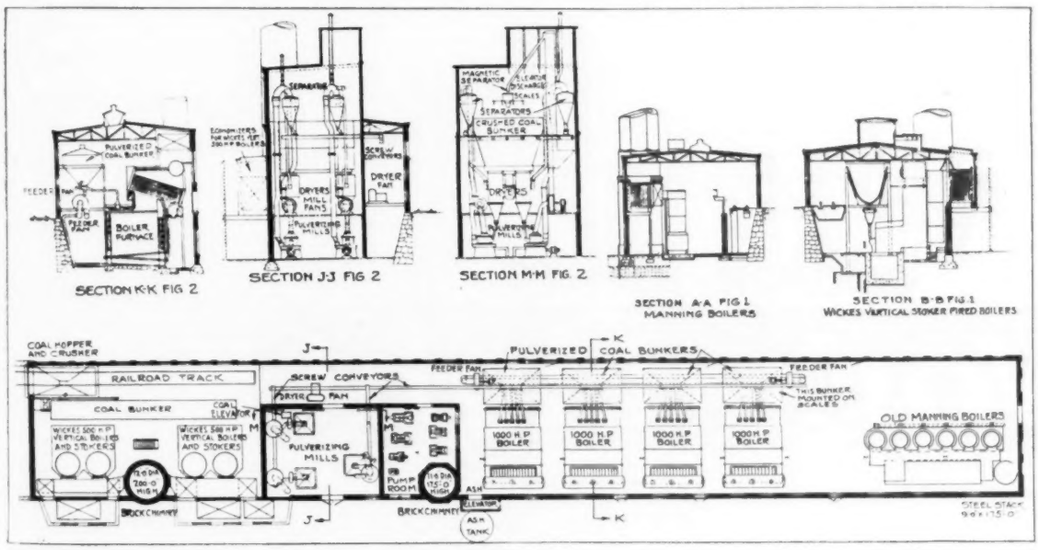

Fig. 2

Gains that have been measured!

Photo shows night view of silk winders under Work-Light in plant of National Silk Throwing Company at Paterson. Note how plainly details show, even in half-tone—also general ideal lighting effect.

FEW workers have more trying tasks than textile-makers. At every step of the way, their ability literally depends upon a thread. Each thread is a separate part of the product. What happens to the threads is usually determined by the light provided to work by.

Spinning, weaving, warping, inspection—almost *any* textile operation—are not just average jobs. More than skill and experience, they require alertness of the eye. The job is a vigil. Workers are constantly on watch. How can output help but suffer if the mill owner neglects his light?

Light selection need not be a problem. You need not pioneer. Mill experience in your own industry will tell you. Output increases, quality improves and the eyes of operators are benefitted under Cooper Hewitt Work-Light. Here are actual instances:*

1. "From our experience in the weave room, I believe Work-Light would be the best system for lighting textile mills, both from points of economy and efficiency." A cotton manufacturer wrote that.

2. "There appears to be an increase in production of between 3.8 and 4 per cent. on the Cooper Hewitt lighted floor as against the incandescent lamp lighted floor." A carpet manufacturer told that to a salesman.

3. "Our operatives can do better work, especially in the weave room." Another cotton manufacturer.

4. "Production gains computed to be 4 per cent. in one department, 4.2 per cent. in another." From one of the country's most famous hosiery mills.

Eye-saving is man-saving. Minute-saving is cost-saving. Economy is in direct proportion to the number of workers in the plant. Employees feel better. Production increases because it is easier to produce.

Apply this knowledge in your plant. Send for the Work-Light booklet today. Cooper Hewitt Electric Co., 85 River Street, Hoboken, New Jersey.

*Names, facts, figures furnished upon request.

COOPER HEWITT

Work-Light

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into centrifugal separators by fans shown in Fig. 2, Section M-M.

The centrifugal separators deliver the pulverized fuel into screw conveyors, running across the boiler house, and into a long screw conveyor which delivers the coal into 50 ton pulverized fuel storage bins located in front of each boiler, shown on Fig. 2 and Section K-K. Underneath each of these bins there are five screw feeders which deliver the coal from the bin into the pipes, the coal being discharged by high pressure air into the furnaces. Two fans, shown on Fig. 2 and Section K-K, furnish the high pressure air, each of them having sufficient capacity to operate the four boilers at 200% rating. The air is drawn from underneath the bottom of the boiler furnaces, cooling the bottom.

The air that passes into the furnaces with the pulverized coal is about 25% of that necessary for the combustion of the coal. The balance of the air is drawn into the furnace by the stack draft, coming into the back of the boiler furnace, circulating through the side walls and delivering into the furnace through the front wall. This method is used for the purpose of keeping the furnace walls cool.

Each of the Raymond roller mills was guaranteed to have a capacity of 6 tons of pulverized coal per hour when the moisture content was not in excess of 5%. Preliminary tests indicate that they have a capacity, using New River Coal, of approximately 9 tons with the coal carrying 5% moisture, and 11 tons carrying 2% moisture. The coal is pulverized to an average of 71% through 200 mesh.

The coal drying equipment was guaranteed to dry 18 tons of coal per hour from a moisture content of not exceeding 12% to 5%, and from a moisture content of 5% to 3%. Preliminary tests indicate that with an initial gas temperature of approximately 350° F. entering the dryer, the coal was dried from a moisture content of 10.6% to 5%; with the temperature of the gases entering the dryer 319° F., coal entering the dryer with a moisture content of 6% was dried to 2%.

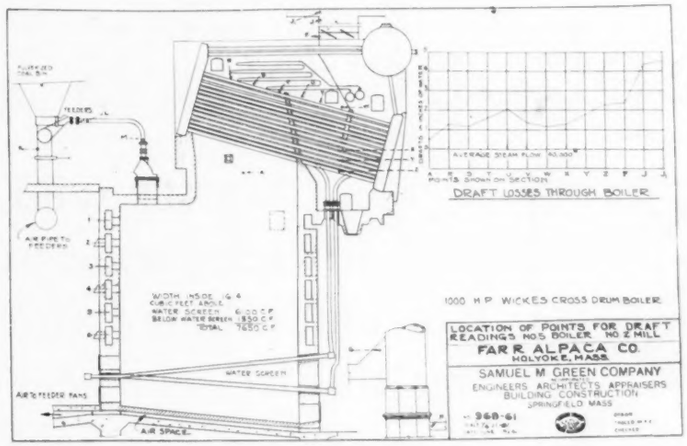


Fig. 3

To provide a method of weighing pulverized coal for boiler tests, one of the 50 ton pulverized coal bins in front of the boilers was mounted on scales. There was a good deal of discussion as to whether or not scales would weigh accurately under these conditions, because the bins are connected to the burners by five 4" steel pipes. Flexible diaphragm connections were provided between the screw conveyor and the bins, and flexible rubber tube connections between the bins and feeder pipes. It has been demonstrated that the flexible connection between the bin and feeder pipes was not necessary, as the scales are as accurate with permanent flange connections to these pipes, and with such permanent connections the scales have an error of only 10 lbs.

Fig. 3 shows a section of the boiler and furnace, and the arrangement of pulverized coal feeders. The curve shows draft losses through the boiler.

Boiler Furnace

The boiler furnace is enclosed in a steel casing and is provided with Sil-o-cel insulating brick, the furnace proper being built of fire brick. Each furnace required 15,000 Sil-o-cel brick, 5,700 special fire brick, 43,000 regular fire brick, 3,500 common brick, 22 tons fire clay, 800 lbs. of asbestos and asbestos rope. The steel casing weighed 60,750 lbs. and cost erected $4,718.

The brick-setting cost for labor and material $11,800. The labor for laying the brick was $3,346, or at the rate of about $44 per thousand.

A system of tubes and headers is placed near the bottom of the furnace and is known as a "water screen," this water screen being connected to the boiler proper. The purpose of this water screen is to prevent the ash from slagging on the bottom of the furnace. The engineers believe that the elimination of this water screen in such an installation is desirable, and they are not convinced as yet that it is a necessity even in furnaces designed as these are. They believe that a furnace built with a deep hopper bottom, where this is possible, would in all probability eliminate the necessity for a water screen.

Tests to determine the efficiency of the boilers have not yet been undertaken but will be within a short time.

The guarantee made by the Combustion Engineering Corp. is, with Pittsburgh or West Virginia bituminous coal, 13,500 B.T.U., 2% to 5% moisture, that the combined efficiency of the boiler and furnace at 100% rating will be 84%; at 200% rating, 83%; at 300% rating 79%. The furnace as designed is guaranteed to have a capacity to burn sufficient coal to force the boilers to 300% rating continuously, without interruption of operation due to fusing of ash.

Samuel M. Green Co., Springfield, Mass., engineers and architects, were in charge of the plant changes and pulverized fuel installation for the Farr Alpaca Co.

Heating Systems for Textile Mills

Methods of Improving Existing Systems of Hot-Blast Heating—Suggestions for New Installations—Return Ducts for Air Recirculation in Cold Weather—Temperature Regulation—Possible Savings in Fuel—Direct Systems of Heating—Adaptability of the Unit Heater

By *Charles L. Hubbard*

THE systems of heating commonly employed in textile mills may be included in two general classes: Those in which air, propelled by a fan, is used as the medium for distributing the heat; and those making use of direct radiation, depending upon natural circulation for producing the necessary diffusion of heat within the room.

Fan systems have the advantage of good distribution of heat; comparative ease of temperature regulation, under the control of one attendant; air movement; and may be so designed as to combine humidity control and dust removal with heating.

The standard form of fan system for textile mills has been to carry up warm air flues in the form of outside pilasters, and discharge from these into each story near the ceiling, as shown in Fig. 1. The fan and heater are located in the basement and connected with the base of the vertical uptakes by means of a brick or concrete duct at or below the floor. In buildings of moderate width, flues along one wall have usually been found sufficient, while in those of greater width, the best results are obtained by discharging the warm air from both sides toward the center.

This system fulfilled the requirements both for heating and ventilation under the older theory, and can usually be adapted to the accepted ideas at the present time by comparatively simple changes and additions. The installation of a suitable air washer at the fan and heater will combine humidity control and dust removal with heating, and if recirculation of air can also be provided, the cost of fuel can be greatly reduced and a modern system of heating and ventilation obtained at moderate expense.

Return-Air Ducts

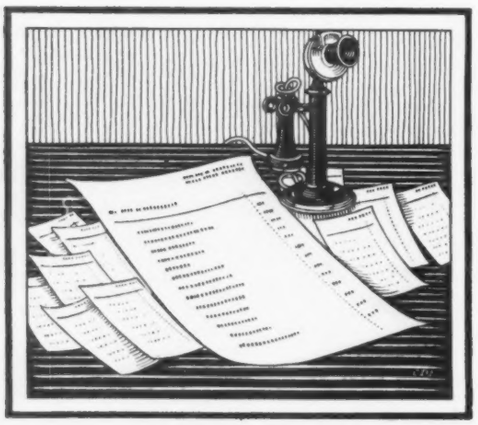
One suggestion for the location of return-air ducts for a mill with the warm air supply confined to one side of the building has already been given. Another scheme for a wider building is shown in Fig 2, in which case the entire air supply was originally taken from outside, heated to a high temperature, delivered through wall inlets on both sides of the building, and allowed to find its way out by leakage through the building construction. In the arangement shown, the distributing system remains as before, but return-air downtakes have been provided at the center of the building near the supporting columns or posts, and only a small amount of air taken in from the outside.

An air washer is provided for controlling the humidity and removing dust, lint, and other impurities which would gradually accumluate if the air was not washed. The floor space required by the return flues is not large, as fairly high velocities may be allowed.

Suppose the building shown in Figs. 2 and 3 is 60 by 240 ft., and 48 ft. in height; then four downtakes, 60 ft. apart, should be sufficient. If the entire air of the building is recirculated every fifteen minutes, it will require the passage of 11,520 cu. ft. per minute, or 12,000 in round numbers, through the lower section of each downtake, which with a velocity of 1200 ft. per minute, will call for only 10 sq. ft. area where it passes through the first floor.

The frictional resistance may be reduced by increasing the relative size of the flue as we go upward, allowing, say, a velocity of 600 ft. per minute from the fourth floor, 800 ft. from the third, 1,000 ft. from the second, and 1200 ft. from the first. Using these figures, the area of each downtake will be as marked in Fig. 2, which it should not be difficult to find room for in the average building.

"I'M Glad my telephone bill is so big!"



IT WAS A BANKER who told us he was glad his telephone bill was so big. He remembered the days when it was smaller, and he knew what the larger use of the telephone meant—decreases in traveling expense, in time lost—and definitely measurable additions to business. "Without the long distance telephone," he said, "we simply could not handle our present business."

Nowhere, outside America, is the telephone used as such a constructive business economy. American homes and businesses use 63 per cent of the telephones of the world, and the number is increasing at the rate of 3000 each working day. The business houses of Europe are agitating in their daily press and in international conference for a long distance telephone system like America's.

Are you and your concern making full use of telephone economy? In any final analysis, the telephone in business costs nothing. The total loss of the expense of a trip may be saved by telephoning in advance. In thousands of cases, without the expenses and delay of travel, the contact is made and the deal closed over the long distance telephone.

Your local Bell company, upon call, will gladly have its Commercial Department advise your concern how to use the telephone for greater profit. But why wait for a special survey? You know what the telephone now does for you locally. It will do the same over hundreds and thousands of miles. It is waiting for your call . . . . . *Number, please?*

BELL LONG DISTANCE SERVICE

The floor space used in this way would probably pay good dividends in fuel saved during the year, if the steam previously employed for heating out-

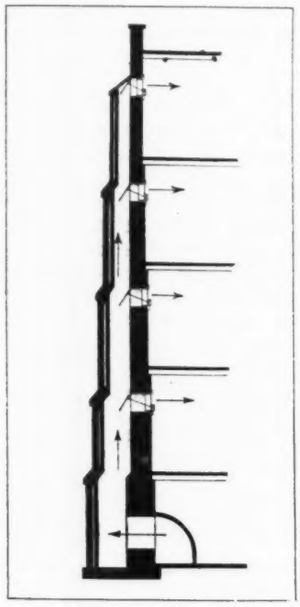


Fig. 1. Standard Flue for Hot-Blast Heating

side air could be utilized for other purposes.

Another arrangement is shown in Fig. 4, in which the supply and return flues are carried up at one end of the building (or at both ends if it is 100 ft. in length or over) and connected with horizontal ducts carried along the center of each ceiling. The general path of the air is indicated by the arrows, which gives a very good distribution of heat.

"Standpipe" Arrangement

The "standpipe" arrangement is

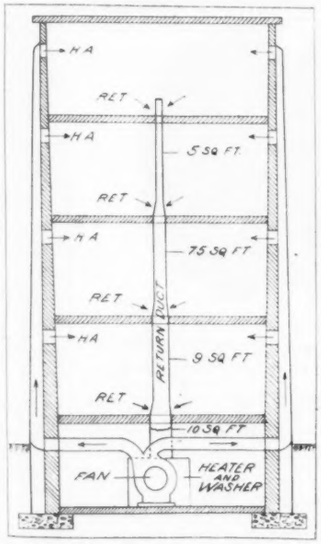


Fig. 2. Arrangement of Return Flues for Standard Hot-Blast System

shown in Fig. 5, in which case the airways, both vertical and horizontal, are usually of galvanized iron, although other material may be used if desired. In buildings up to about 80 ft. in length, a single downtake, with two warm air uptakes, will usually answer.

In modern mills of steel and concrete construction, this same general principle is carried out by making the supporting columns at the center of the building hollow, and utilizing them as air flues, both for the supply and return. When designing a new building these columns should be proportioned and spaced with both the supporting and air-carrying features in view, and the structural and heating engineers should consult with one another in reference to this detail of the work.

A single row of columns at the center will answer for buildings up to 60 ft. in width, and so far as the heating feature is concerned, the distance apart should be limited to 40 or 50 ft.; with the alternate columns used for supply and return. Supply and return openings should be provided on all four sides of the columns, and the air velocities kept approximately between the limits of 600 and 1200 ft. per minute, as previously described.

Temperature Regulation

It is important, with all fan systems of heating, to so proportion the air flow to the different rooms by means

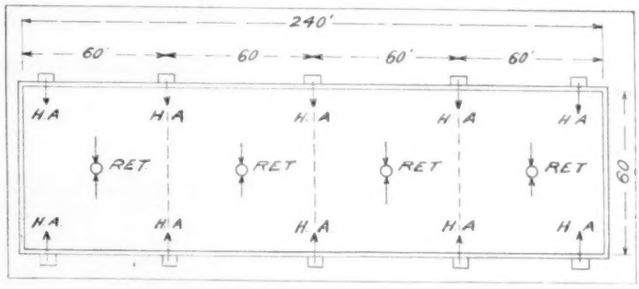


Fig. 3. Plan of Building Shown in Fig. 2

of adjustable dampers and deflectors that each will receive its required amount of heat. When this has been carefully done, a schedule can be worked out by experiment showing just what air temperature it is necessary to deliver to the buildings for different outside temperatures, combined with varying degrees of sunshine and wind velocity. After the proper adjustments have been made it should not be necessary to regulate the temperature of the different rooms separately, except in special cases.

Direct Heating Systems

Direct radiation, both steam and hot water, has been extensively used for the warming of industrial buildings, especially the latter, under forced circulation, in buildings of the sawtooth type, as shown in Fig. 6. The advantage of hot water is the ease with which the temperature of the building may be regulated when the radiating surface of the different rooms has been properly proportioned. When direct steam is used, the return-line vacuum system is best employed, as this gives better drainage through long runs of horizontal piping, is free from "air-binding," and gives a certain amount of local temperature regulation by means of modulation valves on the coils.

Direct radiation, whether steam or

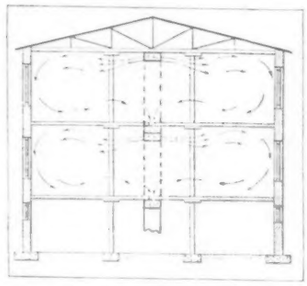


Fig. 4. Supply and Return Ducts at Center of Ceiling

hot water is a purely heating proposition and cannot be combined with ventilation in any of its forms except as an independent factor. Humidity is usually supplied in this case by some form of spraying device which delivers the moisture directly to the air of the room.

Air movement, to any extent, can only be brought about by the use of special fans provided for this particular purpose. The growing use of electric drives, and the elimination of belts, removes an effective factor in the air movement and diffusion of heat in connection with direct radiation.

While the general location of the direct heating coils in one-story textile buildings is illustrated in Fig. 6, the action and results obtained may be more clearly shown by taking a single section, or perhaps better, by the use of a one-story monitor roof building which will include both outside walls and contain one overhead coil.

When the coil is hung overhead, as in Fig. 7, the greater part of the heated air rises directly into the monitor (or into the sawtooth in Fig. 6), while a portion flows along the underside of the main roof. Becoming cooled by contact with the same, it gradually falls, and meeting the currents which are rising to fill the partial vacuum produced by the coil, mixes with them, and again rises to complete the circuit. It is evident from the arrows in Fig. 7, and also borne out in practice, that the greater portion of the heat remains in the upper part of the room and produces but a comparatively small warming effect in the occupied zone near the floor, where it is most needed.

In addition to this, the excessively high temperature of the air in contact with the roof increases the rate

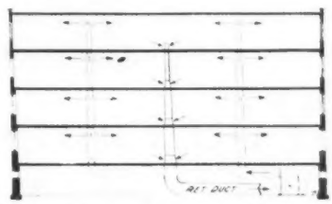


Fig. 5. "Standpipe" System of Warm-Air Heating

of heat transmission through it, and so results in a greater loss which must be made up by burning more fuel.

Coils Below Windows

When the coils are hung below the windows, along the outer walls, the final results are much the same as when placed overhead, although the lower air currents move in the reverse direction, as shown in Fig. 8. The heated air rises from the coils and flows toward the center of the building in contact with the roof. The cooling effect of this causes it to gradually fall, as indicated by the arrows, and mix with the currents passing toward the coils in the lower part of the room; so that the net result, as regards overheating at the ceiling and underheating at the floor, is practically the same as in Fig. 7. By combining the two arrangements, conditions will be somewhat improved, owing to a more general diffusion of the air currents, but the tendency is still for the warm air to rise directly to the upper part of the room, leaving the lower part comparatively cold, as before.

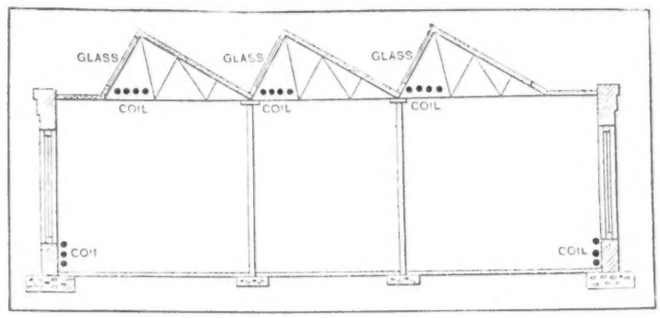


Fig. 6. Direct Heating Coils in One-Story Building with Sawtooth Roof

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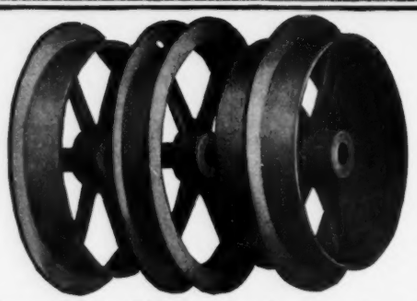

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the heat where it is needed, and controlling the warm air currents to any extent, it is necessary to provide excessively large radiating surfaces, thus

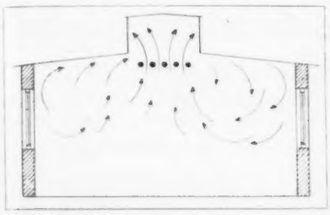

Fig. 7. Path of Warm-Air Currents when Heating with Direct Overhead Coils

overheating certain parts of the room in order to properly warm others. This method is always wasteful, both as to overhead charges on the cost of installation, and in excessive heat transmission through the roof, to say nothing of the unsatisfactory results obtained due to uneven distribution.

Direct radiation is much better

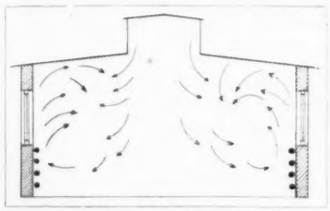

Fig. 8. Direction of Warm-Air Currents with Direct Heating Coils Under the Windows

adapted to a building of several floors than to one having a single story as in Fig. 6, because with the exception of the top floor, the ceilings are warm and the heating can be done entirely by coils beneath the windows. While there will be some tendency to the difficulties described in connection with Fig. 8, it will be much reduced, owing to the general upward movement of warm air through the entire building, which results in a more even distribution of the heat. The upper floor, however, will present the same difficulties as single story buildings

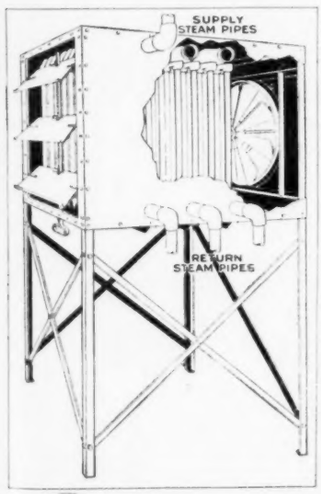

Fig. 9. Typical "Unit Heater" of Semi-Portable Form

Unit Heaters

The necessity for rapid building construction during the war resulted in the development of a method of heating which proved so satisfactory that it has come into large use for industrial buildings. It is particularly well adapted to one-story buildings

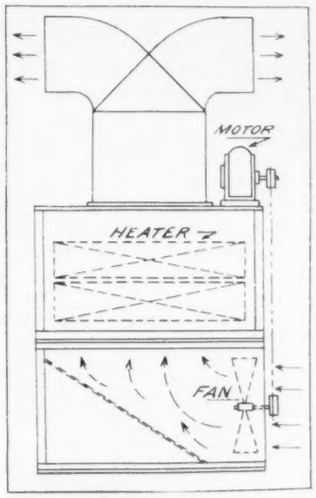

Fig. 10. Heater with Top Horizontal Discharge

having monitor or sawtooth roofs, and makes a most desirable substitute for direct radiation in this type of structure.

The "unit heater" is not a new invention, having been in use in a small

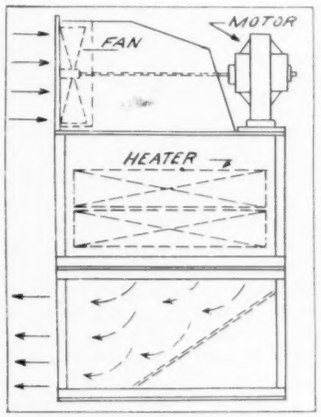

Fig. 11. Heater with Bottom Horizontal Discharge

way for many years, and is a simplified form of hot blast heating, without distributing or return ducts of any kind. A typical unit of this kind is shown in Fig. 9. The air is drawn directly from the room by means of a disc fan, forced through a heater, and then discharged directly into the room from the other side. The machine illustrated in Fig. 9 is designed to stand on the floor, but it may be supported from overhead, if desired, thus leaving the floor space entirely unobstructed.

Other forms are shown in Figs. 10 and 11, the first of these taking in air

(*Continued on page 97*)

Woodworking plants like textile mills demand maximum protection for motors, men and machines. Naturally they use J-1552 Across-the-Line Starters extensively in their most difficult applications.

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NEW MACHINERY AND PROCESSES

Individual Motor Drive for Cards

Special Motor with Starting Characteristics for Overcoming Inertia of Cylinder—Provision for Stripping and Grinding

By *C. T. Guildford**

IN the electrification of cotton mills, individual electric drive has been applied to practically all classes of machines, one of the last being the cotton card. This machine presented certain difficulties which delayed its successful application. These, however, have been overcome successfully.

The features provided in this drive are (a) forward running, requiring a motor of sufficient capacity to carry the load; (b) starting, which requires a motor with special starting characteristics, since the inertia of the heavy cylinder must be overcome in a short period of time; (c) stripping, requiring provision for running the stripping brush either from the driving motor direct, from a separate motor, or from some part of the card mechanism; (d) grinding, which makes it necessary to provide in the motor starter means for reversing the direction of rotation of the card cylinder.

These conditions have all been successfully met in the development of a motor and control, by the Westinghouse Electric & Manufacturing Co., especially for this purpose. Application has been made to four of the principal makes of cards.

Method of Drive

The method of drive may be either by single reduction gear or chain. In the case of gear drive, a cast iron

Fig. 1. Portable Brush in Position for Stripping Cylinder

cut gear, about 20-in. pitch diameter and 2-in. face, mounted on the cylinder shaft, is driven by a micarta cut pinion 3-in. pitch diameter with a 1⅝-in. face. Motor mounting in the case of the chain drive may be practically the same mounting as with the gear drive, except that the drive centers are a little greater.

Fig. 1 shows a card driven by an individual motor and rigged for stripping by the portable brush method. The brush is shown in position for stripping the cylinder, with the rope driving from the large sheave on the motor to the small sheave on the stripper brush shaft. The ratio of these sheaves is such that, when the motor is started and the cylinder has made a few revolutions, the stripper brush has attained a speed high enough to do effective stripping while the cylinder is still moving slowly.

The purpose of this is to complete the stripping in the shortest time and before the brush attains a speed sufficient to throw, by centrifugal force,

Fig. 2. Motor Mounting Bracket, Showing Gear Guard Removed

the cotton from the brush. This would occur if the motor were permitted to attain full speed. The stripping is completed, however, before this happens and the motor is stopped. If, however, the motor were allowed to come to full speed the brush would still continue to strip the cylinder, instead of the cylinder stripping the brush, as sometimes happens with belt drive. This is because the ratio of speeds between the cylinder and brush is such that the peripheral speed of the brush is always greater than that of the cylinder; consequently, the brush continues stripping the cylinder through the entire speed range.

To strip the doffer, the rope is placed on the small sheave on the motor and on the large one of the stripper brush. The motor is then started and allowed to bring the card up to full speed and so continue until the doffer has made one revolution, when stripping is complete. The ratio between the motor and stripper brush sheaves, in this case, is such that although the motor is running at full speed the brush maintains a speed low enough to retain the cotton on the brush while stripping.

Fig. 2 shows another make of card with the individual motor mounting bracket and gear, but with the gear guard and stripping sheave removed. This illustrates especially the perfect accessibility to gear and pinion when the guard is removed.

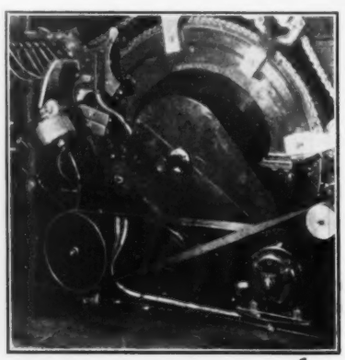

Fig. 3. Motor-Operated Stripper Brush for Portable Brush Method

One of the notable features of the Textile Exhibit held at Greenville, S. C. was the complete electric drive, with individual motors as developed by the Westinghouse Electric & Mfg. Co., on all cotton cards exhibited. Three makes of card were exhibited; namely, Woonsocket Machine & Press Co., Mason Machine Co., and Saco-Lowell Shops.

The cards, in all cases, were driven by a 1¼ H.P., entirely enclosed, 1160 R.P.M. motor, especially designed to give sufficient starting torque to bring the speed of the cylinder up to full speed in about 20 seconds, and to give high running efficiency at the usual load of the card. The motors were mounted on a substantial cast iron bracket mounted on the card side and the drive was by chain and sprockets from the motor to the cylinder shaft.

The starter for each motor was the

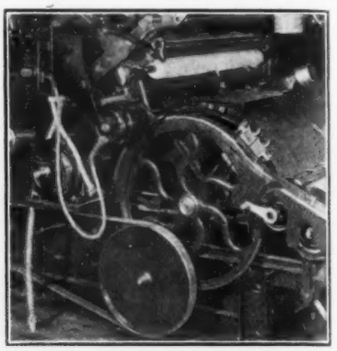

Fig. 4. Motor Direct-Connected to Stripper Brush Shaft for Vacuum Method of Stripping

Westinghouse WK-21 switch, which contains both a main snap switch for starting and stopping the motor and also a reversing snap switch embodying safety first principles to be used for reversing the card for grinding. These starters were mounted on the card in a convenient location for the operator.

Various Stripping Arrangements

Provision for stripping differed in each case. Fig. 3 shows a portable stripping brush equipped with a motor mounted on the stripping brush shaft and driving by spiral gears to reduce the speed of the brush for use on open stripping. This motor was controlled by a WK-10 snap switch, having a receptacle for plug connection through flexible leads to the motor. This method enables the operator to strip in the usual manner with a portable brush. He simply places the brush in position, starts the card and immediately starts the stripper brush motor through its snap switch. When the cylinder has made two or three revolutions, the stripping is complete. In stripping the doffer, both card and

(*Continued on page 121*)

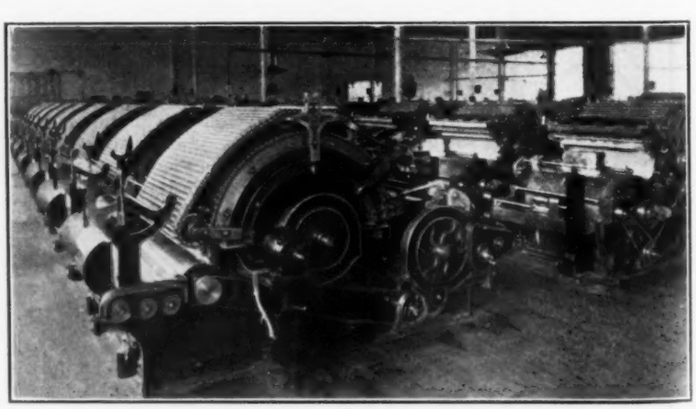

Fig. 5. Individual Motor Drive on Each Card

* Textile Engineer, Westinghouse Electric & Mfg. Co.

TECHNICAL SECTION

Faults in Wool and Worsted Fabrics

A Discussion of How Many of Them Occur and the Means to Prevent Them—Burrs in Warp and Filling—Tender Warp Yarns—Mixed Yarns and Misplaced Threads—Reediness in Light Goods—Damage From the Raceplate and the Shuttle

By Woolford

WHATEVER kind of treatment the raw material of wool and worsted mills has undergone in the preparatory processes, whether suitable or not, it is eventually reflected in the weaving department when the yarn is beamed as warp, or put into the shuttles as filling. If there is evidence of parts of burrs in either warp or filling, it would indicate that the means taken for eliminating the burrs had not been thorough enough to accomplish their removal.

Burrs in warp may be picked off by the weaver at the back of the loom with benefit to the cloth, for it is very rare that burrs can be woven in. As the threads pass and repass each other in the making of the back and front sheds, the spikes of the burrs catch and hold, and often break the adjacent threads, hence weavers should make early removal of them so far as possible. Burrs in filling have either to be taken out in the mending room, when woven into the texture, or, if there is no cotton in the make up of the yarns or the pieces, the cloth may be carbonized.

If a woolen warp is dry and harsh in handle, and has not been sized, one deduction would be that it had been rushed through the various preparatory processes, and had not had time to recover its natural percentage of moisture. It would therefore lack elasticity and good-weaving properties. Improvement could be effected by finely spraying the warp with paraffin, which would dampen and at the same time lubricate the threads. The slightly increased cost would assist the weaving process, produce a better piece in less time, and decrease the mending expenses. Better results would, of course, be obtained by the modern practice of equipping weave rooms with humidifiers.

Tender Warp Yarns

Tender warps which are made so by either poorness of materials, lack of necessary twist, or over treatment at some stage of preparation, have to be eased of as much tension as possible. The decreasing of the number of picks per inch, which is often necessary to produce a passable piece of cloth, calls for a decreasing of the weight on the warp beam levers to reduce the tension. Tender warps must also be very well templed, for if the threads at the selvages slope in excessively from the reed in its back position to the fell of the cloth, the forward movement of the reed forces the threads outward and the constant chafing breaks them down.

Another cause of badly woven selvages is the inaccurate setting of the warp beam flanges. If set too narrow, the diameter of the warp at the listings becomes larger than the diameter of the beam in the body of the warp, and coming off quicker, the selvage yarns weave slack and baggy. If the flanges are set too wide, the diameter of the beam at the listings is less, and consequently the selvage yarns weave tight and are constantly breaking down. When a flange has not been properly bolted, the pressure of the coils of warp against it forces it outwards, and the edges then drop into the gap made, and become useless in that position. They may be broken off and unwound until they come to the surface, and the flange then tapped in and bolted more securely. As an extra safeguard, a looped wire may be passed around the edge ends, and pressure applied to the wire to take the tension away from the extreme edge of the warp.

Mixed Yarns

When a union yarn, composed of a thread of cotton twisted with a thread of worsted, is woven with worsted threads, it is a wise procedure to make the union yarn distinctive by coloring it with a fugitive tint. Then there is no excuse for the weaver placing the threads in wrong heddles when tying up the broken threads. When it is pointed out that the misplacing of only two threads in a warp will spoil a piece, it is far from wise to omit such a cheap way of making a distinction between one yarn and another.

If threads are sleyed wrong, or colored ends are misplaced, and they commence to go through the first piece, it may safely be assumed to be the fault of the person responsible for looking the shafts over at the beginning of the weaving process. If they are right at the beginning and wrong afterwards, the weaver naturally is to blame for the faulty cloth. When delicate shades are used, such as lavender and slate lavender, the greatest care is necessary both in simple and elaborate warping plans, in looking the shafts over.

There is another fault in fabrics which cannot always be found by the methodical lifting of one shaft at a time. This is when two ends have come down together in the same place, and have been taken up in wrong positions. This makes the two threads reversed in the piece, and only by examining the fabric can this defect be detected under certain conditions. Suppose, for instance, that a warp is sleyed four threads in a dent of the reed, and the two center threads are wrong, if the warp was either white or all one color, it would not be found by lifting the shafts, but would be distinct enough to be seen in the piece. This defect was of common occurrence when vicunas were popular, and it was the recognized duty of those looking the shafts over at the commencement of a warp to examine the cloth before leaving the loom.

Wrong sleyed ends at the beginning of a warp should also be discovered by lifting the shafts. There is practically no difference under some conditions between a wrong sleyed end and a reed mark, for in each case the warp is crowded on one side and too open on the other. The distinction comes when the reed is straightened, for the mark then disappears, whereas in the other case, the mark continues.

Cover on the Cloth

Pronounced reediness in some types of fabric has to be avoided, and this is mainly achieved by elevating the back rail over which the warp passes before reaching the heddles. The elevation of the rail eases the tension of the top shed and increases that of the bottom one, and so imparts cover to the face of the fabric.

When a piece has been woven, and it is found that quite a lot of mending will be required, owing to broken threads all through the cloth, the trouble may be due to a variety of causes. The twist in the warp yarn may not have been sufficient to withstand the strain of weaving. Soft spun threads may be made weavable by placing a wet cloth on the warp in the case of a two-fold white worsted warp. In a woolen warp, the most effective way is to size the warp, or, if beamed, to reduce the number of picks per inch. Many times, the cause of broken ends occurring with great frequency is a wrong construction of the cloth, the designer or superintendent trying to crowd too many ends and picks into one inch for the size of yarn used and the weave employed.

Sometimes the ends are cut out by the shuttle, not because the shuttle or its flight is defective, but because the yarn is fibrous and holds the threads in the front shed, which are then caught by the shuttle, as it is not provided with a clear passage from box to box. This cause may be removed by holding the back shed by means of a pair of rods, which reduce the length of the back shed, and place more tension on both the back and front sheds. This tends to force the threads apart, and gives a clear run for the shuttle.

When the parts which control the working of a harness have become worn, that particular harness makes a smaller shed than the others, and is liable to have its threads damaged by any erratic running of the shuttle or by the prominence of the shuttle tips next to the wood.

Grooves in Race

Knots cannot be expected to weave into a piece when the shuttle race has had grooves worn into it by the friction of warps. This applies especially to those weaves with light and heavy lifts, for when the light lifts occur, the bulk of the warp is down and pressing well upon the shuttle race. When this is found to be the cause, the piece may be cut off after weaving the first cut, the sley taken out, and the shuttle race filed and sand-papered to make it smooth. It will also be found to be of much practical value to set each different shed separately, so that whether the parts are worn or not, each harness places its threads in their proper relation to the shuttle race.

When the shuttle fails to run straight, this is also the cause of broken threads. The reed may bulge forward, the picker may be badly worn, the shuttle may be rounded at back and bottom, or the shuttle may not be properly delivered by the picker. At times, the pins of the shuttle have become so worn as to let the filling yarn protrude through the bottom of the shuttle, and this puts undue friction on the warp.

Sometimes the shafts which are employed for worsted or cotton harnesses become askew, either by moisture or heat, and instead of dropping clear of each other, one remains

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Rundle-Spence Vertico-Slant Sanitary Drinking Fountains, centrally and conveniently placed, save unnecessary steps on the part of your workmen. This, of course, reflects itself in healthier employees who turn out a much bigger volume of work. Everyone who drinks from R-S Vertico-Slant Fountains drinks sanitarily because *lips can't touch the nozzle*—and the slight slant stream prevents water from falling back upon the jet. Clear, fresh water always flows and the possibility of contagion is automatically eliminated.

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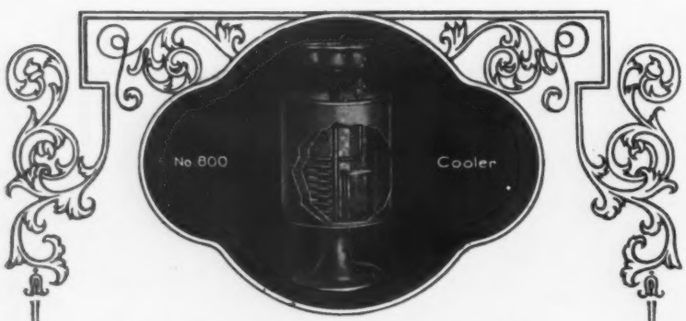

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DRINKING FOUNTAINS

Bradley Equipped Washroom in the Holeproof Hosiery Plant

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The Holeproof Hosiery Girls.

The Bradley Washfountain

Textile plants all over the country are installing the time saving, water saving, space saving, sanitary "Washfountain." Just as the "Bubler" Fountain has replaced the old tin drinking cup so the modern "Washfountain" is replacing the old dirty washing troughs, sinks and bowls.

A few of the plants now using Bradley Washfountains

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No. American Lace Co.	Daniel Boone Woolen Mills
Phoenix Hosiery Co.	Louisville Textile Co.
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Milwaukee Worsted Co.	Appleton Woolen Mills

American Textile Woolen Co.

Two sizes, 54-inch and 32-inch diameter for ten or six people

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on top of the other. The upper one holds the threads up from the running board, and many threads are damaged through this cause.

Damaged Shuttles

Another way in which many threads are broken is when a pin in the shuttle works through the shuttle back, and cuts into the reed. This makes the reeds very sharp at the sides, and as all the threads must pass the damaged place, they come in for severe treatment. The punches used for knocking out the shuttle pins should always be smaller in diameter than the pins, so that the wood prevents the pins from working through at the back. The damaged reed may be improved by a piece of soft wood being tapered to a thin wedge, and then rubbed against it. The friction wears off the sharp edges of the reeds, and the yarn is then more kindly dealt with.

The foregoing are some of the faults in fabrics that result from poorly prepared yarns, poor layouts of goods, and equipment that is not in first class shape. In addition, many faults result from unskilled weavers, or a careless or malicious attitude on the part of more skilled workers. Constant attention on the part of overseers is needed to see that expensive wastes are not resulting from one cause or another in weaving. Material has accumulated a considerable manufacturing cost at this stage of cloth making processes and the presence of only a few faults will severely cut into expected profits.

Gay Bros. Co. Build Two Additions

Enlarge Main Mill and Erect New Office Building—Rearrangement of Machinery

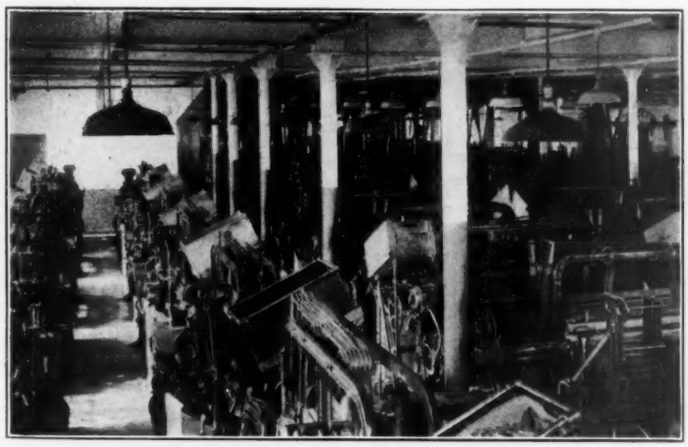
EXTENSIVE enlargements and rearrangements of equipment were completed during the year 1924 by the Cavendish Woolen Mills, Cavendish, Vt., Gay Bros. Co., proprietors. This plant manufactures heavy cotton warp overcoatings, and the increasing demands for products necessitated an increased output. The new construction includes a four-story addition to the main manufacturing building, the new part measuring 72 by 72 ft.; an office building, 35 by 38 ft., with garage in the basement; and a three-story addition to the old mill, 8 by 25 ft. The new space and the machinery added practically double the capacity, and to take care of the increased steam requirements a new 150 H. P. Dillon boiler is being installed. The power requirements were ample, as a new generator was installed about five years ago. The mills are also connected with the lines of the Vermont Hydro-Corporation for auxiliary electric power, which makes a very flexible arrangement.

The original building of the Cavendish Woolen Mills was erected many years ago, and parts of it were too narrow for efficient operation with modern large size machinery. Therefore, in connection with this enlargement, one-third of the old mill was torn down to make way for the new additions. At another point the narrow addition mentioned above, which is 8 by 25 ft., was built to widen the old mill. Plans for the changes were made by Olin D. Gay, president, and Leon S. Gay, secretary and treasurer, and the construction work was done by a local company.

When the new space was ready for occupancy, much of the old machinery was relocated to give a better routing of material through the plant. All backlash in the passing of material in process from one operation to another has been eliminated. In addition to this relocation of old machinery, 36 new automatic Crompton & Knowles looms, 4 mules, 3 sets of 60 by 60 Davis & Furber cards with tape condensers, 2 fulling mills and one washer have been installed.

Of particular interest are the 36 new Crompton & Knowles looms, which are among the first automatic looms for three-quarter width heavy goods made from coarse shoddy yarns to be put into operation. These looms are all driven by General Electric individual motors of ¾ H. P., and are operating to the complete satisfaction of both Gay Bros. Co. and the Crompton & Knowles Loom Works. The new cards are driven in a group from one motor. In the finishing department changes and improvements have been made in the machinery in addition to the new equipment added for these processes. In one instance the drying capacity has been increased by means of Proctor & Schwartz improved equipment.

Addition to Plant of Gay Bros. Co.; New Office at Right



Automatic Looms for Three-Quarter Width Heavy Goods

All the new construction is steel, brick and cement. The changes were carried out with minimum interruptions to manufacturing operations as the mills were busy throughout the year on orders which taxed the capacity and required overtime operations. In the accompanying views, the new automatic looms are shown in the foreground of the weave room picture. This also shows a system of filling boxes, which has been developed at the mill in order to have the filling handy for the weavers.

Heating Systems in Mills

(*Continued from page* 91)

at the floor level and discharging it horizontally at an elevation of 8 to 10 ft. through one or more outlets, as may be required to give the proper distribution. In Fig. 11 the operation is reversed, the air being delivered at the floor. The forms shown in Figs. 9 and 10 are best adapted to mill work, as a bottom delivery would pick up dust and lint from the floor and mix it with the air. On its return to the heater, the air is spread out over a much larger area, and its velocity is so reduced as to be practically imperceptible, so that no harm from dust or draftiness will be noticeable with heaters having an air elevated discharge.

The fan may be either of the propeller or contrifugal type, driven by an electric motor, steam turbine, or belted to the line shafting. For most purposes, however, and always when the entire heating is dependent upon a fan, it should be driven by an independent motor or turbine, so that the plant may be warmed irrespective of the main prime mover which operates the machinery.

In the regular system of hot-blast heating, employing distributing ducts, the air is discharged in jets at a comparatively large number of points, with more or less churning effect and production of drafts due to the high velocity of discharge. With a unit heater the result sought is to so direct the air currents from the outlets as to give a slow movement to the entire contents of the room, which will evenly distribute the warm air and return the cooler air to the heater without churning or the production of unpleasant drafts.

This is shown by the arrows in Fig. 12, where the currents are discharged horizontally in two directions, well above the heads of the operatives. The tendency of the warm air to rise is checked by the cooler air settling from above, and as the mixture is thus lowered in temperature, it gradually falls during its movement toward the outer walls.

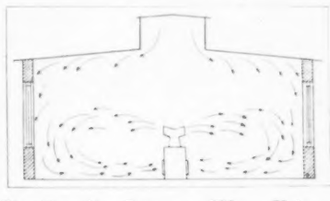
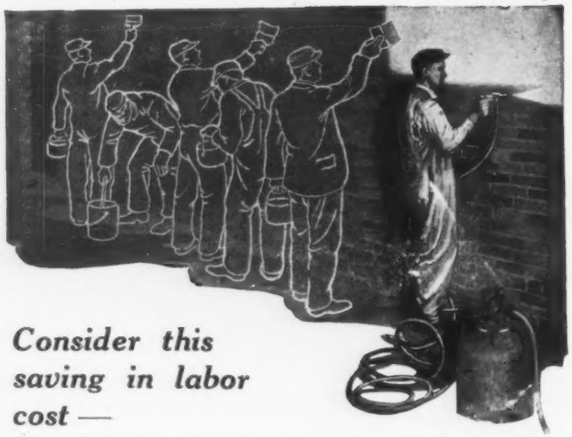


Fig. 12. Air Currents When Using a "Unit Heater"

By this arrangement the entire circuit of air movement is confined largely to a stratum at the lower part of the room, where most needed by the occupants. The zone near the ceiling or roof remains comparatively cool, thus lowering the rate of transmission and waste of heat, while the floor is kept warm by the return air passing back to the heater.

As the resistance to be operated

5 Painters' Work—1 Man Cost



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20 feet highest grade electric cable, with armored plug cap.

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Note toggle switch in handle
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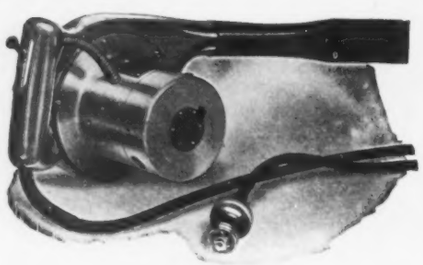
Shipped on 10-day trial, anywhere.



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against is low, owing to the open pattern of the heater and the absence of distributing ducts, the propeller fan gives a good degree of efficiency, requires but little power, and is low in first cost.

Low Cost of Operation

When this system of heating was first introduced on a large scale, it was thought that the cost of operation would be increased over that of the duct system, owing to the smaller and less efficient type of fan employed. As a matter of fact, the conditions are the reverse of this, due to the great reduction in resistance, and the design of special fans for this purpose. Where a unit heater requires 1.1 brake horsepower for circulating 15,000 cu. ft. of air per minute, an ordinary hot-blast system, equipped with centrifugal fan, deep heater, and distributing ducts, will require about 7 horsepower for handling the same volume of air. This item alone, in case of a large plant, is well worth considering. Regarding the cost of installation, as compared with direct radiation, it is usually cheaper, depending upon local conditions.

This is largely because of the reduced amount of heating surface required to condense a given weight of steam when the air passes over it at a high velocity; the efficiency of the unit heater, under ordinary conditions, being five or six times that of direct coil surface. Furthermore, as unit heaters are built entirely at the factory and utilize machine work to the greatest extent possible, the relative cost for labor is considerably less.

While it is true that a definite quantity of heat is required to warm a building, under given conditions, regardless of the type of system supplying it, one may do the work to better advantage and with less waste than another, as has been found to be true in many cases with the unit system.

Practical Considerations

As with most power and heating specialties, it is usually best to state the requirements and let the manufacturers design the apparatus according to data obtained by tests for their own particular form of equipment.

We may say in a general way that for the best results the air should be delivered to the room at a temperature between 110 and 130 under maximum conditions. As the outside temperature rises, this can, of course, be reduced until it reaches the normal room temperature of 68 or 70 degrees, when steam may be shut off entirely and the fan operated simply for air movement.

For ordinary room temperatures of 65 to 70 deg., with air delivered at an average of 120 deg., 1 cu. ft. of air should be passed through the heater for each B.T.U. lost from the building by transmission and leakage.

The velocity of discharge into the room varies with different makes, and commonly runs from 1,000 to 2,000 ft. per minute. The higher velocities must be kept well above the occupied zone, and are used for extending the range of the heater and accelerating the movement of the entire air content of the room.

The floor area which can be warmed by a single unit varies with the size and number of outlets, the type of fan, and kind of building in which it is used, and commonly runs from 2,000 to 10,000 sq. ft. One building reported, is 1800 ft. in length by 350 ft. wide, by 50 ft. in height, and is satisfactorily warmed by sixty heaters of this type.

The location is also an important matter in securing a good distribution of warm air and avoiding pockets which are not reached by the moving currents. There seems to be no standard arrangement employed for this purpose, although the general schemes shown in Fig. 13 seem to be followed in a considerable number of cases.

The absence of overhead distributing ducts is often of great importance as they frequently interfere with the shafting of group drives and modern lighting arrangements. When unit heaters are supplied with exhaust steam, the return-line vacuum will make it possible to run all piping overhead, both supply and return. If live steam is used, the pipe sizes may be made much smaller by carrying a fairly high pressure in the mains, and reducing at each unit. While it is not usually feasible to employ the air washer type of humidity control with the unit heater, on account of the space required, the spray type of humidifier works in very nicely with this arrangement, as the air movement is such as to give a good distribution to the moisture.

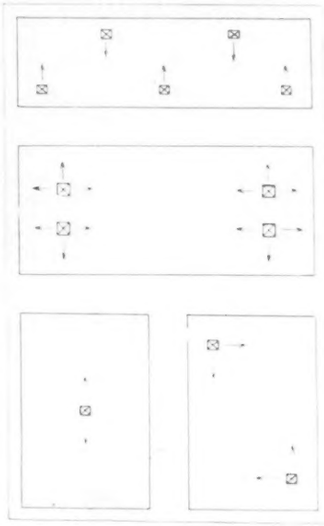

Fig. 13. Various Arrangements for Air Diffusion

Preparing for Sample Ranges

Cooperation Between Mill and Selling Agent—Selection of Colors and Duplication of Mixtures

By *Textus*

MAKING sample ranges from which the styler may select suitable patterns for an approaching season's work is a very important matter, as upon it depends the success of the mill. The choosing of colors and mixtures to be used should be very carefully done. While much of this work devolves upon the designer, he should not be governed wholly by his own tastes in the matter.

The trend of the market, and the probable demand as foreseen by the selling agent should be carefully considered. For this reason it is important that the designer be in close touch with the selling end of the business, either by personal contact or through an intelligent correspondence between the selling agent and the mill. Each season is usually distinguished by a predominance of some particular color and tendency of style, the character of which should be given to the mill as early as possible for the consideration and guidance of the designer in the laying out of his work.

Whatever the suggestions for coloring may be, it is always advisable to have in stock a few staple shades to combine with the new ideas. This adds to the variety of the line, as well as allowing the work to be done more expeditiously. Both black and brown, with three mixtures of each, made by the use of 25%, 50% or 75% of white, or other desirable colors similarly used, can nearly always be used in combination with others suggested. Of course the color scheme required may be carried out by varied mixtures as suggested above, if advisable.

Avoid Too Much Variety

Some designers make the mistake of trying to use as many of the old shades in stock as possible, and when the new shades are introduced there is too great a variety to allow the work to be easily and profitably carried out. The greater the variety of yarns in use, the larger must be the accumulation in the mill, which at times may tend to cripple the work.

The writer recalls a case that came under his observation, where much of the work was stopped because the weavers were waiting for filling which it was impossible to supply because there were no empty bobbins for the spinners. Of course, it might be said that the mill needed more bobbins. But the real trouble in this case was the use of too many kinds of yarn, which too often cripples the production of both warp and filling. In selecting colors and mixtures in stock, to combine with the new shades, it is advisable to use the ones that have character and have proved popular in the best sellers of the previous season. But by all means avoid too great a variety.

Duplicating Mixtures

In the production of new shades in solid colors, the skill of the dyer will be required, but in the making of mixtures, careful calculation and repeated trials may be required on the part of the designer; especially if an exact imitation of a mixture is required. The writer has had considerable experience along this line, and has found that by a proper method almost any desired result may be secured. Haphazard or guesswork methods are bound to prove a waste of both time and stock.

We recall a case where a designer sought to imitate a mixture of what appeared to be a brown and white combination, but which really contained a small percentage of black. His first attempt resulted in a full cut of cloth that was pronounced by the manager to be "way off." He kept up similar attempts until he had produced nine pieces of varying shades, before meeting with success. Each experiment seemed to be the result of guesswork, with no definite knowledge of what the result would be until the cloth was finished.

By an intelligent use of the magnifying glass, a set of accurate grain scales, and a pair of hand cards, together with careful comparisons, one may produce almost any mixture desired, in a small quantity of a few grains, with a surety of good results when produced in a large quantity. Having a sample of cloth, a mixture of which it is desired to reproduce, it is first necessary to untwist a sufficient length of the threads to secure a sample of the mixture in its apparent carded condition; this to be used as a type in the procedure.

There are two reasons for having the sample in this condition: First, it is possible to more readily determine the different colors; and second, the material is in the same condition as the mixture which is about to be made, that is, in the carded state. This is an important matter as neither the twisted threads, the woven cloth, nor the felted fabric will shade exactly like the same mixture in the loose or open condition. It is of course the same, but the result of the rays of light upon the loose fibres is different, and must be considered.

Helping the Dyer

By examination under the microscope or with a good pick glass of the mixture to be copied, an idea of the colors composing it may be fairly determined. If more accuracy is required, the removal of a few fibres of each color, which are grouped together and placed on cloth of contrasting color for examination, may prove helpful. The next procedure is to find, by careful comparison with each of these groups of fibres, whether there are colors in stock to match them. Any colors that cannot be matched will have to be produced by the dyer, and to aid him the fol-

(*Continued on page* 125)

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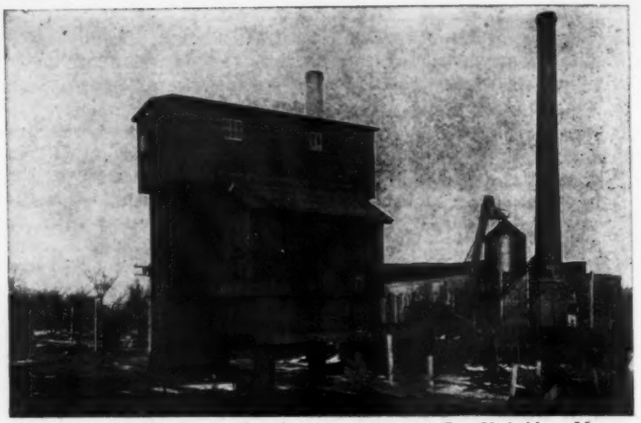

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QUESTIONS AND ANSWERS

CORRESPONDENCE WITH READERS

Under this head, we undertake to answer, free of charge, to the best of our ability, questions pertaining to textile matters received from any regular subscriber to TEXTILE WORLD. Inquiries should give the fullest information and data possible. In the case of damage to material, a sample should be sent. In this way answers can be given which will be of immediate technical value to the correspondent and to others in the same line. Inquiries pertaining to textile processes, machinery improvements, methods of management, the markets, etc., are especially invited as well as any legitimate discussion on the views expressed. All inquiries must be accompanied by the name of the person inquiring, not for publication, but as an evidence of good faith. The identity of those seeking information on technical subjects will not be disclosed.

If the question is not of general interest to textile readers and involves expensive investigation, a charge covering the cost may be made, of which the inquirer will be advised before any expense is incurred.

Letters expressing opinions or voicing criticism will be signed by the correspondent's name unless the letter itself contains a request that the name be withheld.—EDITOR.

Difficulty in Wool Carding

Technical Editor:

I am enclosing a sample of stock which I have been asked to run on the cards at 190 grains for 50 yards for 1⅝ run. The silk does not seem to card out. I have garnett breasts on the cards and they are in good condition. I also have a lot of trouble in keeping my first breaker fancy clear. It is a 10 in. fancy and is clothed with 26/30 straight tooth open set. They are all ground up smooth with no hooks on the points. My cylinders are turning at 65 turns a minute, and the fancy at 400 turns per minute. Could you suggest some way to run this stock and have the first breaker fancy clear itself? The other fancies clear all right. My first breaker is set free to a 26 gauge for workers and strippers, and 28 gauge for fancy. (5333)

The main trouble seems to be in the weight of the roping; 190 grain on the card will allow 85% delivery of roping on the mule for 1⅝ run yarn. This is not a suitable draft on the class of stock in question. It seems advisable to speed up the first breaker fancy, also set it on harder, so that it will clear the cylinder properly. Also set the card to a 28 gauge, and run the doffer faster, which will clear the stock from the main cylinder more satisfactorily.

* * *

Finish for Cotton Cloth

Technical Editor:

I am enclosing a piece of cloth herewith and would like to have you give me, on the Questions and Answers page, some information with regard to the finishing methods employed to produce the finish on the sample. What is this cloth called? (5338)

This sample is nothing more or less than an ordinary grade of print cloth which, after dyeing and drying, has been filled with a mixture containing about 60 lbs. of white corn dextrin, with 10 to 12 lbs. of some good softener or soluble oil, to make 100 gals. This mixture is used on a 2-roll starch mangle, after which the goods are dried and tentered and slightly conditioned, then passed over a 3-roll friction calender. The writer does not know the trade name of the fabric in its present finish, but the cloth itself is, as previously stated, nothing more than an ordinary grade of print cloth.

* * *

Lubricating Knitting Machines to Prevent Spots

Technical Editor:

We are manufacturers of 220 needle half hose and have heretofore knit all of our goods in the gray, but we are beginning the manufacture of ingrain goods, and we would like to have the benefit of your advice as to the best method of lubricating the cylinders and needles of the knitting machines so as to avoid oil spots on the goods. We wish especially to avoid that streak across the heel which is caused when the long butt needles are raised and any dirt on the needles is wiped off on the yarn. (5334)

If your cylinders are thoroughly cleaned, wiped dry, and oiled well with a small amount of stainless oil, we do not think you will have any trouble from needle marks. Some mills make a practice of cleaning bright machine parts with hot caustic soda, following the soda bath with very hot water or steam, and being careful to rinse all of the sediment and dirt out of the slots. You will find it advisable to oil as soon as the parts are dry to prevent corrosion from contact with the operatives' hands. Since it takes approximately 400 deg. F. to start the temper of steel, you will readily see that you cannot soften needles or sinkers with boiling water.

A mill superintendent to whom this inquiry was sent replies as follows: Use a so-called soluble grease and apply it at butts of needles. I recommend Borne-Scrymser Company's AX 8; also AX 4 oils for this purpose.

Another mill man offers the following in reply to this question: It has been my experience that oil spots and streaks cannot be entirely eliminated. But they can be reduced to a minimum by using extreme care in the method of lubricating the machines. The method I have always employed in knitting delicate colors is first to strip the machines to be used of needles and sinkers and wash well with gasoline or Oakite to remove all traces of old oil and carbon. Immerse the cylinder and sinker ring, needles and sinkers; also jacks if they are being used. When dry reassemble the parts and oil very sparingly with a good grade of stainless oil, being very careful to oil sufficiently to lubricate and yet not leave any suggestion of an excess of oil on any part of the machine. This should be attended to by the fixer or someone whose judgment can be absolutely relied on, because of the unusual expense caused by damaging ingrain goods.

If these methods are followed the goods damaged by oily conditions will be reduced to a very small percentage. The few goods that may be oil-stained accidentally can be cleaned by first applying a little cocoanut oil to the spots to soften the lubricating oil, then removing the spot or stain by a light application of benzine or ether on a piece of clean waste. This should leave the goods in salable condition.

* * *

Stripping Colors

Technical Editor:

Will you advise us whether colors like airdale and log cabin can be stripped, removing the color enough so that same goods can be bleached with a lime bleach? If so, how? (5337)

As the shades can be produced with different classes of colors, and the inquirer does not indicate what colors were used, it is impossible to answer this question. If the inquirer has a bleachery where bleaching is done with lime, a practical test on a small swatch of the dyed goods would give the best answer.

* * *

Eliminating Water Mangle

Technical Editor:

We propose to eliminate the operation of passing the goods that come from the bleachery through the water mangles. In other words, it is proposed to run the goods direct from the bleachery to the drying room. I am under the impression that this practice was followed in the past, and I am wondering whether any of the large bleacheries are using this abbreviated method. Furthermore, it would be interesting to know whether such a system could be used in connection with goods that are to be dyed, or must it be confined solely to white goods. It would seem that unless the bleaching chemicals are thoroughly washed out, the dyeing process would not be a total success and perhaps streaks and other defects would show on the finished goods. Your comments on the above problem will prove most helpful. (5336)

In eliminating the operation of passing goods from the bleach house through water mangles, the inquirer is not attempting to accomplish anything which is new or unusual. In fact, a great many concerns handling lightweight lawns, organdies, voiles, etc., pass their goods directly from scutchers onto drying machines. The question of whether a water mangle should be used or not is decidedly open to discussion. It is a well-known fact, however, that certain grades of medium weight and heavy goods cannot be suitably handled, or the proper finish given, without being water mangled. This particularly applies to dyed goods. If the writer were considering such a move he would confine the elimination of the water mangle to such goods as voiles, lawns and organdies.

There is one angle to eliminating water mangles which a great many persons, in their enthusiasm for the idea of cutting out one machine, are apt to lose sight of; that is the fact that if goods are not properly squeezed before the drying operation the efficiency of the drying cylinder machine is materially affected. Goods can be delivered to a drying machine from a water mangle with considerably less moisture content than they can be delivered from a bleach house squeeze and scutch; particularly if they have been allowed to lie in the bins for any length of time and seepage has affected the bottom or lower half of the bin.

Spots on Shade Cloth

Technical Editor:

I enclose herewith samples of shade cloth which you will note show spots, which the manufacturer of shade cloth says are due to the unsaponifiable material contained in the size. Our opinion is that these spots are caused by lime soaps depositing on the cloth in the process of boiling-out. We are not certain whether this is done in closed kiers but are rather of the opinion that the boiling-out is done in the rope in open kettles. You will note that these spots are particularly visible in the shade cloth after it has received its coat of green pigment. Your advice on this matter will be very much appreciated. (5339)

We cannot agree with the inquirer that the cause of the faults on the finished shade cloth is the depositing of lime soaps in the boiling-out process. Lime soaps depositing on the scoured goods would give a shaded and semi-opaque appearance to the fabric upon being held between the vision of the inspector and the light. The sample of scoured fabric is entirely clean. It represents a well-scoured piece of goods which would be practically a perfect white if treated with chloride of lime to bleach. The slightly yellow stain shown in the scoured sample, in the writer's estimation, would be removed if the goods were full bleached, and is more or less the result of air stains due to over-exposure to atmospheric conditions while in a slightly damp condition.

Unquestionably the lumps or spots on the filled goods result from the doctor blade or blades on the opaque finishing machine not functioning properly. There is a wide difference of opinion as to how many doctors should be used on this class of work. The writer has had considerable experience in dealing with shade cloth manufacturers and finishers and knows that some concerns use only one doctor blade on the goods, while others use two and three. We know that one of the best concerns in the United States on this class of work uses two doctors on the machine and we understand that they never have trouble of the kind shown by sample.

If the doctors had been functioning properly, they would have smoothed down the lumps which are on the filled side of the goods. By the simple procedure of passing a round metal surface over these goods in their present dry condition the lumps are considerably smoothed out, and partly broken up, and they become very shiny. It is, therefore, evident that in the wet starched condition these lumps could be entirely eliminated if the doctor blades were made to work correctly.

* * *

Distinguishing Artificial Silks

Technical Editor:

Kindly advise the best method to distinguish the different kinds of artificial silk: for instance, Celanese from Viscose, Lustron, Dupont, Tubize, etc. Is it possible in a finished weighted silk fabric to strip off the weighting and finish so as to determine the original size of the silk? (5331)

Simple methods for distinguishing the

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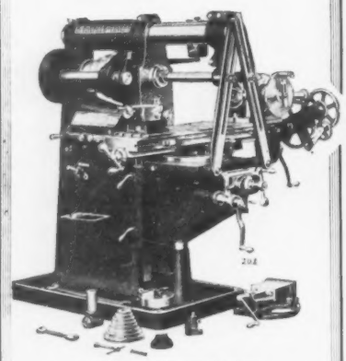

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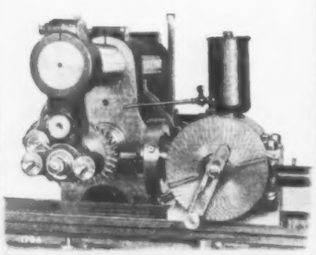

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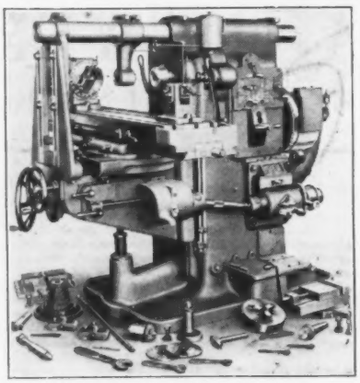

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To the Business Man—PROPER PROTECTION

If your building and contents burned today, your fire insurance would protect you. But—suppose part of your mill is idle on account of a break-down. WHAT DOES IT COST?

Protection from a mechanical standpoint means a properly equipped machine shop to make necessary repairs without delay. DELAYS COST MONEY. Regardless of the efficiency of your mechanics, they cannot produce the best results unless they have the proper machine tools.

We have the tool you need—write us for descriptive booklet and prices.

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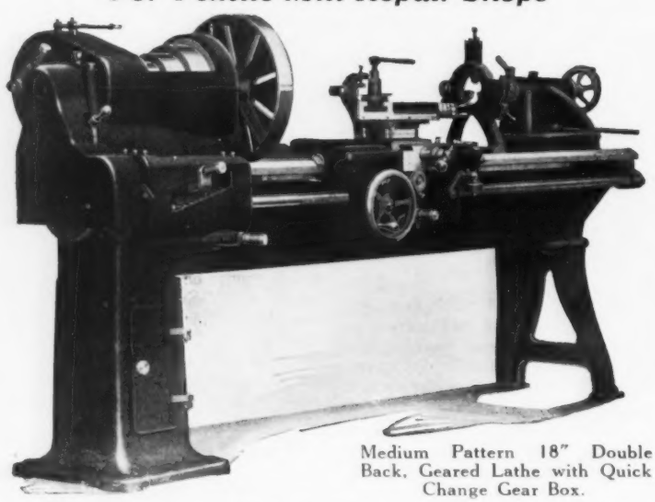
For Textile Mill Repair Shops



Medium Pattern 18" Double Back, Geared Lathe with Quick Change Gear Box.

They are a necessary part of your repair shop equipment.

We shall be pleased to advise you regarding the type and size lathe suited to your particular needs. Address Dept. 815.

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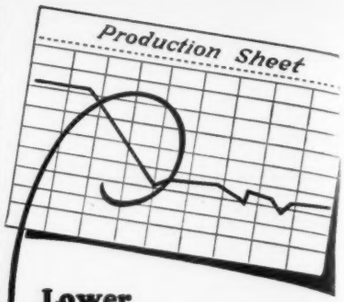
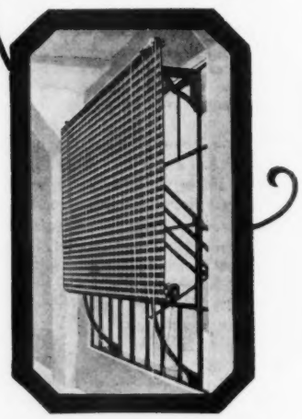


Lower production costs

More work per day with fewer errors—that is the production ideal. Good light and air are the two things which contribute most to production efficiency. They are the basis of real economy. Installing RATOX SHADES insures this result.



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RATOX SHADES admit from 30% to 40% more light and air than ordinary shades. They are constructed of beautifully and permanently stained wood strips woven parallel with hard twist seine twine—they are sturdy and give satisfactory service for 20 years or longer.

Suspended from off-set brackets secured directly to the steel sash, RATOX SHADES are operated independently of the center-swung ventilator—thus providing perfect circulation of fresh air at all times.

Specially designed fixtures are provided for all types of installation.

It will pay you to learn more about RATOX SHADES and find out how easily they can be installed in your plant.

Send specifications for quotations and complete details.

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RA-TOX
OFFSET WOOD FABRIC SHADES FOR STEEL SASH

SALES REPRESENTATIVES: *There is still some very desirable territory open for manufacturers' sales agents selling to industrial plants. Write for particulars.*

Correspondence with Readers—Continued

different kinds of artificial silk are as follows: Celanese and Lustron silk can be considered practically the same as they are both cellulose acetate silks. Viscose and Dupont are the same type of artificial silk. Tubize is a nitrate silk.

It is very easy to distinguish Celanese and Lustron silks from the other artificial silks by a simple burning test. Viscose will burn and emit an odor similar to cotton, while Celanese and Lustron silks burn up into a hard knob at the end of the fiber, or sort of fuse. This test is very reliable when one becomes familiar with it.

Tubize silk, being a nitrate silk, can best be distinguished by dissolving some of the silk in concentrated sulphuric acid. To this acid solution add a trace of diphenylamine or brucine sulphate. With diphenylamine a blue color is produced, and with brucine sulphate a bright red color will develop. Lustron and Celanese silks are commonly called the acetate silks, and are not so water absorbing as Tubize and Viscose silks. For more detailed tests we refer you to pages 486–490, Matthew's "Textile Fibers."

In regard to determining the original size of silk in a finished and weighted silk fabric, we doubt whether it would be possible to strip off the weighting materials, especially if it was a mineral weighted silk (iron and tin loading) so that the original size of the silk yarn could be determined. However, we feel that approximate results might be obtained by unraveling a known weight of the yarn; drying to constant weight and determining the moisture. Extract with ether or chloroform to remove oil or fatty matter, such as softeners used in finishing; then boil well with water, rinse, dry and weigh again. The loss will represent finishing materials such as glue, gelatine, starch, dyes, oil and fatty matter.

The sample should then be ashed until all organic matter has been burned off, and the residue weighed, which represents the normal ash of silk—which only amounts to a fraction of a per cent, plus mineral loading or weighting materials such as tin and iron compounds. The moisture plus finishing compounds, plus ash or mineral matter, subtracted from the original weight of the sample as unraveled from the fabric, represents approximately the actual amount of pure silk, and this could be used in roughly estimating the size of the original silk yarn. We would not claim any great accuracy by this test, but it would serve in obtaining a rough idea as to the denier of the original silk.

A second method that can be used is to extract silk with ether to remove fatty matters and soak in a solution of hydrochloric acid at 100–120 F. This solution is made up with 1 part hydrochloric acid and 2 parts water. Soak silk in this bath from 1 to 2 hours, then rinse well until free from acid and boil in a soap solution or even plain water. Weigh before and after this treatment, making sure that both weighings are with the material in the same condition as regards moisture content.

A chemist to whom this inquiry was submitted replies as follows: Celanese and Lustron are acetate silks; the others are regenerated cellulose silks and may be divided as follows: Viscose and Dupont as xanthate silk; Tubize as nitro silk; Pauly as cupra silk. The burning test will show that the cellulose acetate silks will seem to melt and form a black, hard bead, similar to real silk when burned, but will not give the odor of real silk. The regenerated cellulose silks all burn in a similar manner to cotton, leaving very little ash, and that ash is very light and powdery.

Use samples of known origin for comparison in dyeing tests. If dyed with SRA colors, made by the Celanese Company, the Celanese will dye deeply, the Lustron not so deeply, and the others will either not dye at all, or will be lightly stained.

Boiling in water will destroy the luster of Celanese but I have not tried this on Lustron. Other art silks are not affected as to luster by this treatment. Dilute solutions of caustic soda or potash will disintegrate Celanese but I have not tried this on Lustron. This treatment does not affect the other art silks.

Run blanks with known samples in the following chemical tests: Ruthenium oxychloride with ammonia turns acetate silks slightly pink in spots; turns cupra silk very slight pink after two hours; turns xanthate silks bright pink after twelve hours; turns nitro silk a reddish color at once. Fehling's solution gives blue color with cupra and xanthate silks, and a greenish color with nitro silks. (Have not tried acetate silk.) Zinc chloride 20, potassium iodide 2, iodine .1, and water 15, turns acetate silks yellowish; cupra silks brown, which washes out; nitro silks, a reddish violet. Diphenylamine sulphate solution turns nitro silk blue; no color with xanthate or cupra silk; no record of acetate silks. These tests are not sharply defined, so it is best to run parallel tests using fibres of known origin.

With regard to stripping off the weighting and finish of silk so as to determine the original size of yarn, I have no data on this subject. Any method would give only approximate results, due to the many interfering factors when stripping. The following suggestion might be useful: If fabric is silk warp and filling, cut out large piece, measure length of yarn and count; weigh carefully; dry at 105 C., weigh; loss is moisture. Extract with petrolic ether to remove fats, dry and weigh; this second loss is fats. Extract with alcohol, dry and weigh; this loss is soaps. Extract with water, dry and weigh; this loss is gum and soluble material. Treat with hot dilute hydrochloric acid, wash well, dry and weigh; this loss is dye, etc. Ignite remainder and weigh ash. Add all the losses together, along with the ash; then subtract from the original weight; this gives weight of silk. From the number of yarns in the original piece, multiplied by their length, secure the total length. From the weight and the length, figure the deniers with the regular method for silk.

* * *

Seeks a Particular Oil

Editor, TEXTILE WORLD:

Our boss dyer informs us that he has used "Salvopol" oil in the dyeing process on wool stock which has been stripped. He informs us that this oil is used to liven up the stripped stock and has given a very good result.

Can you inform us where this oil can be purchased?

Yours very truly,
C. W. C.

[Can any of our readers help this inquirer?—Ed.]

From Another TEXTILE WORLD Prize Winner

HOLYOKE, MASS.

Editor TEXTILE WORLD:

I was surprised and pleased to see in your Jan. 10th issue letters from other winners of the TEXTILE WORLD prize at the Philadelphia Textile School.

It hardly seems 20 years since I attended that school. When I left, I went to work as second hand for my father, who was foreman dyer for the Farr Alpaca Co.—and succeeded to his position when he died in 1919.

The value of a textile school education depends on the individual, as in all other lines of work. Certainly education is a great benefit if one is able and inclined to take advantage of it—but it is not a substitute for work. And prizes are always a stimulant—in all manner of ways.

Joseph Collingwood

JOSEPH COLLINGWOOD.

* * *

Drag in Cap Spinning

Technical Editor:

The question and answer entitled, "Drag in Cap Spinning," in the Jan. 10 issue, brings to mind how little the operation of drag is generally understood. It is, in my judgment, caused by three things. First is the inertia of the yarn. Inertia is not, as many suppose, simply the tendency of an object to remain at rest. It is also the tendency to remain in motion when once started, and to continue moving uniformly in a straight line. This tendency, which is nothing more than centrifugal force, causes the yarn to drag behind the bobbin and to wind on.

Another cause of drag is the resistance of the air. The air creates a friction which retards the progress of the yarn. An increase in moisture increases the air resistance. A relative humidity of 45% seems to be best. The third cause is the friction due to the yarn rubbing on the edge of the cap. This varies with the size of the bobbin. Empty bobbins cause the most friction. This tangential pull, as it is sometimes called, is the cause of some of the greatest difficulty in spinning.

There are many little operations of this sort which are not generally understood and I believe that more discussions dealing with these subjects would be helpful.

Sincerely yours,
GEORGE MUNSEY.

Editor, TEXTILE WORLD:—

Your letter of Jan. 14 in reply to our inquiry of the 8th was all that we had hoped for.

We tried to obtain the information from other sources but without success. The information will undoubtedly be of value to us and we would like to have you know that we greatly appreciate your promptness and courtesy.

Thanking you for your co-operation in this matter, we are

Sincerely yours,
T. V. COTTER & SONS
(Textile Machinery)
(Signed) T. V. Cotter

* * *

Calculating Size of Roping and Draft

Technical Editor:

Perhaps this will give your reader what he wants with regard to calculations of necessary inches of draft to produce a certain run yarn from the size of roping given in grains for 25 yards. I refer to the question and answer under the heading, "Calculating Size of Roping and Draft," in your issue of January 31.

For example, assume that the proper draft is wanted when the stretch is 72 in.; the yarn, 5 run; and the roping, 41 grains for 25 yards. Use the formula: 7875 ÷ (Run Yarn × Grain Roving) = Draft; or (109.4 × Stretch) ÷ (Run Yarn × Grain Roving) = Draft. This gives us: 7875 ÷ (5 × 41) = 38.4 in. draft. Try 38 in.

The derivation of the formula used in the above calculations is as follows: Weight of roping delivered = Weight of yarn spun. Therefore, (Run Yarn × Draft) ÷ Stretch = Run Roping. Now we find the weight in grains of 25 yards of roping: Run Roping × 1600 = Number of yards that weigh 7000 grains. Therefore, (7000 × 25) ÷ (1600 × Run Roping) = Weight of 25 yards of roping in grains. But, Run Roping = (Run Yarn × Draft) ÷ Stretch. Therefore, (7000 × 25 × Stretch) ÷ (1600 × Run Yarn × Draft) = Weight in grains of 25 yards of roping. Therefore, (109.4 × Stretch) ÷ (Run Yarn × Draft) = Weight in grains of 25 yards of roping. Assuming a 72 in. stretch, we have 7875 ÷ (Run Yarn × Draft) = Grain Roping (25 yards); and 7875 ÷ (Run Yarn × Grain Roping 25 yards) = Draft; and again, 7875 ÷ (Grain Roping × Draft) = Run Yarn.

Assume, for example, that we want to know the draft required to convert 50 grain roping to 4 run yarn: 7875 ÷ (4 × 50) = 39.38 in. draft. Try 38 in. draft, allowing for easing up. Now assume that we desire to know the grain roping required to produce a 4 run yarn with a draft of 38 in.: 7875 ÷ (4 × 38) = 51.8. Make 50 grain roping, allowing slightly for easing up.

Where the draft is not 72 in., the new value can easily be found, since 109.4 × Stretch = New Constant. Then, New Constant ÷ (Run Yarn × Grain Roping) = Draft.

JOHN C. LOWE.

ESTABLISHED 1865

SCOTT & WILLIAMS

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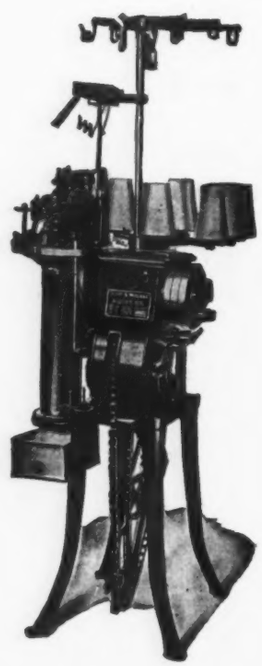

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Producing Ribbed Top Half Hose Complete

Ribbed top made on two sets of needles.
Automatic transfer from ribbed stitch to plain.
Eliminating necessity of skilled help.
Saving of raveling waste which occurs when topped by hand.
Each stocking is dropped from the machine when finished.
Each stocking is automatically started upon the empty needles, producing a French welt without drawing thread or cutting, no ends of any kind to be removed.
Machine is fitted with five yarn fingers.
Provision is made for high spliced heel and double sole.
Provision is made for ring top and ring toe.
Needles without rivets or latches.
Speed of machine about the same as Model K.
Production about twelve stockings per hour on 3¼"-220 needles.
One operator can take care of the same number of machines as Model K
The machine is built in all gauges.

366 Broadway New York

KNIT GOODS MARKETS

Varying Views on Tuck Stitch Hosiery

Long Life Predicted for Them in Misses' Goods but Doubtful Future in Women's

Superficially the primary market for hosiery has been quiet during the last few weeks, but this outward appearance is somewhat deceptive. Staple goods as a class continue draggy, and new business on novelties has not been particularly active in sections during recent weeks. In the novelty division of the market, however, the appearance of quiet is frequently due to the fact that mills are unable to take care of the delivery requirements of prospective customers.

While the improvement in general business since Jan. 1 has not been as marked as had been expected by some selling agents, it is fairly well established that, compared with 1924, volume during the first two months of the year has been distinctly better. The head of the department which sells one of the largest mills in the country, whose bread and butter is staple goods, states that its sales, in cases, were 50% larger this January than last, and 33⅓% larger in February than in February, 1924.

In this particular case the increase in value of goods sold should be even larger than in the quantity, inasmuch as the mills are making higher average priced goods now than a year ago.

Fibres Firm and Higher

The price situation in fibre goods is still somewhat confused. In some cases no advances have been made on lines of women's all-fibre stockings. In other mark-ups averaging perhaps 10-12½c have been made. The general market for this merchandise is undeniably stronger and slightly higher, for even in those sections where higher prices have not actually been put into effect, quotations are firmly maintained. There is no inclination to trade down, such as has not been entirely absent from this branch of the market in the past.

Tuck Stitches Discussed

The influence of several variations of the tuck stitch on misses' goods has been marked, and is reflected in considerable irregularity in the quotation of staple misses' hose. In this branch of the market it is almost unanimous opinion that the novelty stitches now so popular, or something very much like them, will be a permanent feature.

Conservative mill representatives, however, as well as others who are not noted for conservatism, continue to maintain that the tuck stitches in women's goods can hope to achieve only temporary popularity, no matter to what heights that popularity may reach. Men holding this opinion insist that the cross rib and the alligator stitch, for instance, do not make a stocking which is attractive enough to hold its place for long.

From the mill standpoint, too, it is held that present market prices, which average around $3.25 for a women's full mercerized stocking, (with considerably lower offerings rumored) do not allow a sufficient profit margin to warrant any great enthusiasm.

Sellers who are on this side of the fence continue to caution their mills not to be misled by the present popularity of the tuck stitches, and to watch their step carefully in the production of them.

Hosiery Trade Notes

In connection with any discussion of cross rib goods for women it is interesting to recall the recent offering at $3.10 by a well known mill of a fibre alligator stitch stocking with short boot. This number has been withdrawn from sale, with the accompanying statement that it is sold up. In the opinion of one good student, it was not so much a case of being sold up as it was of discovering that this price entailed an actual loss for the mill.

A. L. Brevitz is now buying both hosiery and underwear for the American Wholesale Corp., Baltimore, Md., following the recent resignation of C. E. Wisching as hosiery buyer. Mr. Brevitz came to the American Wholesale Corp. several years ago from Burnham, Stoepel & Co., Detroit.

Bliss, Fabyan & Co. have been appointed sole selling agents for the Adora Hosiery Mill, Philadelphia, manufacturer of infants' socks. Milo D. Burke, until recently selling agent for the mill, has become associated with Bliss, Fabyan & Co., for whom he will sell both hosiery and underwear. Plans have been made by the Adora Hosiery Mill for the production of a women's spring needle silk hosiery.

Statements that the low-end cotton business has lacked snap are confirmed by reliable reports that 176 needle half hose, with transferred top and looped toe, are being offered in several sections at 95c.

As a volume proposition misses' 300 needle mercerized goods have given way largely to 344 needle, which themselves are not particularly active because of the strong interest in novelties.

Regular offerings of misses' combed cross ribs are available at $1.62½ and of misses' mercerized cross ribs at $2.40.

While the tight situation on nearby deliveries of R I goods has not been eliminated by any means, it is evident that it is clearing up gradually. One commission house is taking business on its mercerized number for delivery late this month or early in April at $3.25.

Expansion of several full fashioned silk mills, already announced and contemplated, is testimony to the satisfactory position of most manufacturers in this division of the business. Prices have apparently reached a basis which will be stable for some months to come.

Bathing Suits Move—Sweaters Still Quiet

Fair Duplicate Orders on Suits—Slight Improvement in Novelty Sweaters

Duplicate orders for bathing suits, while not in enormous size or numbers, are probably the most active branch of the knitted outerwear business at the moment. Mill agents say that business of this class has been good for some weeks, and that the results of curtailed production of bathing suits are becoming more apparent right along.

Jobbers are understood to be paying the higher prices for suits which have become general throughout the market, operating freely in cases where they are guaranteed a quick re-sale, and conservatively when there is any question about this point. An early stretch of warm weather this spring would undoubtedly bring more life into the bathing suit business than it has seen for the last two years.

Business on staple sweaters continues seasonably quiet although important houses report a steady stream of small-lot duplicates.

Conflicting reports are frequent on novelty sweaters for spring. Speaking generally, there is understood to have been a slight improvement during recent weeks, although the New York trade is not active. Crickets are not moving in a large way, so far as the jobbing trade is concerned, and some sellers are of the opinion that coats will occupy a more prominent place in the business this spring than they did last summer and fall.

MILWAUKEE, WIS. The Phoenix Hosiery Co. is operating its plant at full capacity, with some departments on an overtime schedule. The outlook for the year is exceptionally bright, according to J. E. Fitzgibbon, vice-president and general manager.

GREENVILLE, S. C. The Southern Franklin Process Co. is now operating its local plant day and night and is turning out approximately 50,000 pounds of materials weekly.

Routine Business in Underwear Market

Requests for Early Shipment of Light-Weights are Cheering—No Advances Yet

So far as new features are concerned, the New York underwear market presents every appearance of a first class summer resort during mid-winter. The natives are present in numbers, but their activities seem largely confined to reminiscences of the high-times of last summer and anticipation of good things they hope are promised for next season.

Always a dull time in the primary market, February this year has been almost deadly according to most sellers. In a few instances exceptions to this statement must be noted. For example, it is stated by an official of one of the largest mill organizations in the country, making a wide range of goods in all weights, that business booked last week on its entire line totalled 1,200 cases, which is not exactly something to sneer at.

Cases of this kind are not typical however. Heavy-weights are almost completely inactive, and are likely to continue so for some little time. A fairly steady trickle of duplicate orders on light-weights has been coming in but the claim is not advanced in any section of the market that this business has been large.

No Advances Yet

The most encouraging element in the light-weight situation is the fact that jobbers continue to request quick deliveries of merchandise originally ordered for late March and April. It is understood that they are more interested in hurrying shipments of ribs than of bals, but it is a noteworthy fact that bals have not been completely neglected in this prodding of mills for early deliveries.

Nothing has come of the advance on light-weights contemplated several weeks ago by an important mill. It is understood that this matter of raising prices is still being considered, and that action may be taken at any time.

Competitive comment on these reports considers them largely as propaganda. It continues to be maintained by experienced selling agents that putting higher prices into effect at this time would probably prove to be a mistake, and that the general market will not fall into line with any action of this sort taken by any individual producer, no matter how important that individual producer may be.

Underwear Trade Notes

Fred D. Crawford has been appointed manager of the underwear de-

For Better Hosiery and Larger Sales

The Wildman Spring Needle Knitting Machine has enabled many manufacturers to escape the depression which affected the industry as a whole.

If you are interested in manufacturing a quality of hosiery far better than the average; if you want to make hosiery that buyers are glad to get—write today for the booklet entitled: "A New Type of Hosiery," which explains one of the most important hosiery developments in years.

An illustrated instruction book, giving full information about the Wildman Spring Needle Knitter is also yours for the asking.

WILDMAN MFG. CO.
NORRISTOWN, PA.

WILDMAN
THE WORLD'S STANDARD

We have issued a very complete and informative book, "The Science of Knitting." Price $3.

Knit Goods Markets—Continued

partment of Marshall Field & Co., Chicago, in addition to his recently announced connection with their hosiery department. T. R. Bossort, formerly manager of the Field underwear department, has resigned to become associated with the Van Dyck Knitting Co., Milwaukee.

Doubts have been expressed in some quarters as to the accuracy of reports regarding the percentage of business placed on heavy-weight ribbed goods. It has been hinted that this volume has been somewhat exaggerated but it is authoritatively stated that slightly over 50% of a normal full-year production of one of the best known lines of men's goods in the country is now definitely contracted for.

Fibre goods for women do not occupy the prominent place in market conversation that was theirs last year. Some of the prophets of disaster see in this confirmation of their gloomy predictions that nothing good would come of this business, but to others who are perhaps a little more impartial it seems to be nothing more than a natural development.

It was inevitable that many of the hurried attempts to get aboard the bandwagon of artificial silk popularity should be failures. A number of cheap priced lines have disappeared from public view. Several manufacturers who went into the business in good faith discovered that there is a great deal more to producing a satisfactory fibre silk garment than appears on the surface.

Staple Hosiery Quotations

Prices printed below represent fair average market quotations on staple hosiery in the New York market this week. They apply to average quality merchandise in mill packing sold to the jobbing trade. Ranges are necessary because of variation in quality, weight and terms.

Men's	
144 needle, 1 lb. transferred top, looped toe	$.95–97½
176 needle. automatic top, sewed toe	67½–70
176 needle, transferred top, looped toe	95–1.00
220 needle, combed, double sole	1.50–1.60
200 needle, full mercerized, double sole	1.60–1.70
220 needle, full mercerized, double sole	1.70–1.85
220 needle, fibre plaited, double sole (mercerized top, heel and toe)	2.50–2.65
240 needle, fibre-plaited, as above	2.62½–2.75
220–240 needle, silk and fibre twist, double sole (mercerized top, heel and toe)	3.00–3.25
240 needle, pure thread silk, 10 strand (mercerized top, heel and toe)	3.62½–4.00
176 needle, all-worsted plaited over cotton, plain colors	–3.50
176 needle, worsted plaited ingrain heathers	–3.62½
Women's	
176 needle, hem top, sewed toe	85–90
176 needle, 1¼ lb., looped toe	95–1.00
220–240 needle, full combed, double sole	1.60–1.75
220 needle, full mercerized	2.15–2.25
240 needle, full mercerized	2.30–2.75
344 needle, mercerized, ribbed-to-ankle	3.00–3.30
160–176 needle, mercerized, ribbed-to-toe, light weights	*3.25–3.50
Full mercerized cross ribs	3.25–3.35
220 needle, plain fibre, 3 seam back, 18–20 in. boot (combed top, heel and toe)	2.85–3.00
220–240 needle, plain fibre, 3 seam back, 18–20 in. boot (mercerized top, heel and toe)	3.10–3.25
240–260 needle, silk and fibre twist (mercerized top, heel and toe), standard goods	
20 in. boot	5.37½–5.75
22 in. boot	5.75–6.25
240–260 needle, silk plaited over fibre, 20 in. boot (mercerized top, heel and toe)	6.00–6.50
200–220 needle, fibre plaited over worsted	6.25–7.00
Children's	
28 oz. misses ribs (on 7; rise 5¢, fall 5¢)	97½–1.00
Boys' 3 lb. 1 x 1 ribs (on 8; rise 7½¢, fall 7½¢)	1.85–2.15
300–344 needle misses' combed (on 7; rise 7½¢, fall 5¢)	1.55–1.70
344 needle misses' full mercerized, 1 x 1 and 6 x 4 ribs (on 7; rise 10¢, fall 5¢)	2.25–2.60
300 needle misses' combed cross ribs (on 7; rise 7½¢, fall 5¢)	1.62½–1.75
300 needle misses' mercerized cross ribs (on 7; rise and fall 10¢)	2.40–2.75
Children's ⅞ lengths, mercerized, ribbed leg, circular ingrain fibre top (average 7 to 10)	2.75–3.25
Children's ⅞ lengths, as above, fibre jacquard tops	3.25–3.50
Infants' socks, full mercerized, fancy tops	1.50–1.75
Infants' mercerized ribs	1.50–1.70
Full Fashioned	
(Average quotations on dip-dyed, standard makes)	
Chiffon, mercerized top, heel and toe, 20 in. boot	11.00–11.50
Chiffon, all-over silk	13.00–15.00
8-9 thread, mercerized top, heel and toe, 19–20 in. boot	9.75–10.75
10–11 thread, mercerized top, heel and toe, 19–20 in. boot	11.50–12.50
12 thread, mercerized top, heel and toe, 20–21 in. boot	12.50–13.00
10–11 thread, all over silk	16.50–18.50
39–42 gauge half hose, 10–11 strand, mercerized top, heel and toe	6.00–7.00

* Nominal.

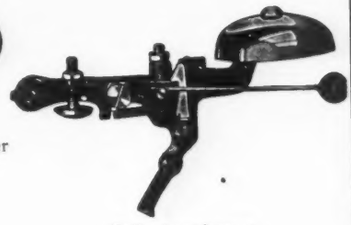
EFFICIENT LOOPING

can be accomplished only with

PARAMOUNT

LOOPER ATTACHMENTS

Paramount Chain Cutter and Stripper



Bell Attachment

YOU CAN—

Increase Production

Reduce Seconds

Save Looping Thread

and

Simplify the Entire

Looping Operation

Foot-Stop Motion and Adjustable Arm

These ATTACHMENTS furnished for all makes of machines and installed on either a Sale or Rental basis.

If you desire further particulars or demonstration write us.

PARAMOUNT SERVICE GOES WITH ALL PARAMOUNT PRODUCTS.

Manufactured by the makers of the well-known "PARAMOUNT FORMS."

PARAMOUNT TEXTILE MACHINERY CO.

Hunter Building

Market and Madison Streets Chicago, Ill.

HORIZONTAL AND VERTICAL STRIPED
HALF-HOSE PRODUCT

Stripes like these made with "BANNER" Attachments

For the Manufacturer who wishes to keep pace with the present demand, for striped hosiery, it is essential to be able to produce a wide variety of pattern effects.

The plaited check pattern shown is produced by the combination of the New Universal "BANNER" Striper, Horizontal and Vertical, Attachments and is only one of the many Stripe Combinations that are obtainable by their use.

They are very flexible units and are easily applied to any regular "BANNER" machines that are out.

Prove to your own satisfaction that these are worth while additions to your equipment.

Arrange for an Interview

HEMPHILL ©

Main Office and Factory
PAWTUCKET, RHODE ISLAND

New York Sales and Show Rooms
350 BROADWAY, NEW YORK

Philadelphia Sales and Show Rooms
COLONIAL TRUST BLDG., 13th and Market Sts.

Southern Office
JAMES BLDG., CHATTANOOGA, TENN.

Knit Goods Markets—Continued

and they have gracefully retired from the arena.

It would be idle to deny that considerable merchandise in the way of fibre vests, bloomers, etc., have given a black eye to this class of garment as a whole because of the way they failed to stand up under normal wear.

But it is also believed to be a correct statement that well made lines, turned out by mills which know what they are about and which are selling quality and not price, are moving along fairly constantly to larger sales volume.

Business News

New Link-Belt Publication on Skip Hoists

The many uses to which the Skip Hoist method of handling materials may be effectively applied, are interestingly set forth in the text matter and illustrations of a new book just issued by Link-Belt Co., manufacturers of elevating, conveying and power transmission equipment.

The text matter explains fully the function of the Skip Hoist, and its relation to other types of mechanical equipment; tells where, and on what classes of work Link-Belt Skip Hoists are profitably used; gives complete details of operation, capacity, design and construction.

The illustrations are thoroughly in keeping with the text, supplementing it in such a way as to convey all the information which photographs and drawings alone can show clearly. Both drawings and photographs picture representative Link-Belt Skip Hoist installations of various types.

Copies of this interesting and informative publication will be sent to interested engineering and production executives. Ask for Book No. 546, addressing nearest office of the Link-Belt Co., or the Philadelphia, Indianapolis and Chicago offices of the company.

Valves and other Engineering Appliances Displayed

In booth No. 104 at the "Informal show" to be held in Milwaukee Auditorium, Milwaukee, Wisconsin, May 25 to 28, 1925, purchasing agents will find an interesting display of valves of bronze, iron and steel; pop safety, blow-off and non-return valves; water columns, water gauges and gauge cocks; lubricators; oil pumps, hand and mechanically operated; oil and grease cups; whistles, cocks, etc.

"Keeping pace with modern engineering practice" will be truly exemplified in the complete exhibit of Lunkenheimer Products, and competent attendants will be pleased to explain in detail the distinctive features of the various articles on display.

Of particular interest will be the new designs of Lunkenheimer superpressure steel gate valves—made in all sizes, for 250, 400, 600 and 900 pounds working steam pressure, 750° F. temperature, conforming to the proposed American steel flange standards developing under A. E. S. C. procedure.

Visiting purchasing agents will be cordially welcomed at booth No. 104 and are invited to submit their valve problems to the men in charge of the exhibit, who will render all possible assistance in solving them.

Investment Co. Acquires Pacific Coast Branch

The Commercial Investment Trust Inc. with eastern headquarters at 41 East 42nd Street, N. Y. City, announces the acquisition of the California Co. a finance corporation. This company has been in operation for a number of years, owned and controlled by interests affiliated with the California Insurance Co. Its main office being in California it will form the nucleus of the Commercial Investment Trust Pacific Coast operations.

With this new company Commercial Investment Trust and its subsidaries, will have regional headquarters in New York, Chicago, San Francisco and Toronto with branch offices radiating from these points.

The company specializes in the deferred payment branch of the banking field. During 1924 it financed deferred payment sales in various lines of industry aggregating approximately one hundred millions of dollars.

Appoints Agents in Japan

The Stow Mfg. Co., Inc., Binghamton, N. Y., has appointed The Horne Co., Ltd., 36 Kawaguchi—Co., Nishi-Ku, Osaka, Japan, with branches throughout that Empire as well as Korea, Formosa and Manchuria, as its agents with stock, covering all types of flexible shafts, grinders, drills, railroad track grinders, taximeter and speedometer cores and similar products.

OBITUARY

Mrs. W. S. Van Brocklin

Mrs. W. S. Van Brocklin vice-president of the Van Brocklin & Stover Co., Amsterdam, N. Y., died at her home in that city following a week's illness. The deceased was born in Amsterdam, June 23, 1840 and was 84 years old. Following the death of her husband, the late William S. Van Brocklin, she retained a controlling interest in the Van Brocklin & Stover Co. which she held to the time of her death.

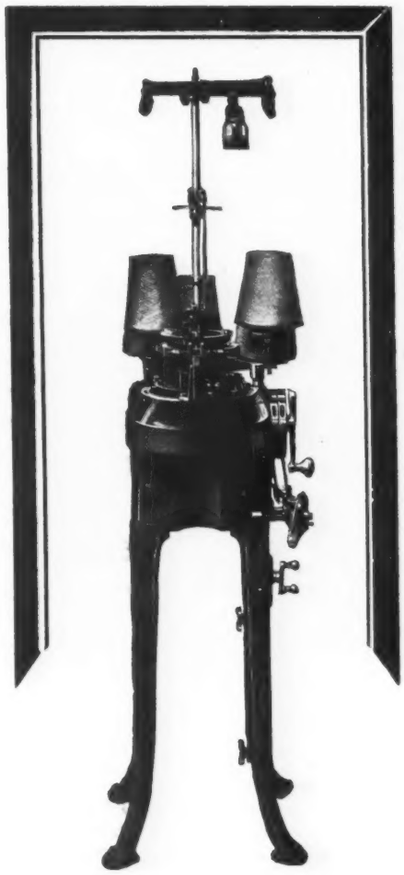
John Hines

John Hines, superintendent of the Columbus (Ga.) Mfg. Co. died recently at his home in Columbus. In earlier life Mr. Hines had been connected with mills in Vermont and at New Bedford, Mass.

Charles Wheeler

Charles Wheeler for 20 years superintendent of the Griffin (Ga.) Mfg. Co., but more recently a resident of New Hampshire, died recently at his winter home at Daytona, Fla.

STANDARD MACHINES
NYE & TREDICK MACHINES



You wont find this in every machine

This Standard H-2F produces distinctive vertical stripes with fancy color combinations in either ingrain or cross-dyed effects, with a production at least 30% greater than high speed Standard H.

It is a highly flexible machine, for knitting plain or fancy fabric, ladies' fashioned hose, half hose, ¾ length hose and children's footed hose.

Standard H-2F is a two-feed, five finger machine, including double sole and operating without jacks. Built in all gauges from 2¾" to 3¾" diameters.

Write for information.

STANDARD-TRUMP BROS. MACHINE CO., *Wilmington, Del.*

Show Room—121 N. Broad Street, Philadelphia.

Reputation Builders

Cheney Silk Yarns have played no small part in helping to establish the reputation of many of America's famous weavers of cloth.

There are others who might well use these Yarns with equal success.

REELED SILK YARNS

—for the woolen and worsted trade. Dyed in all shades necessary for their work, including white with fugitive stains

SPUN SILK YARNS

—for warps and filling; in the gray or dyed. And for decorations in woolens and worsteds. For delivery in hanks, on tubes, cones, or spools—also in warps

CHENEY BROTHERS

215 Fourth Ave. at 18th St., New York City

MILLS: SOUTH MANCHESTER, CONN.

SILK GOODS MARKETS

Georgettes Heavily Bought For Spring

Interest Switches to Lighter Crepes for New Business and Prices Strengthen

The broadsilk market has held to its high rate of activity but the interest of the various classes of buyers is giving evidence of changing somewhat. New business on a heavy scale was reported placed in the georgettes by jobbers. The latter were buying for deliveries in the gray running through April, May and June, and want the goods apparently both for printing and for plain colors. Prices on this class of merchandise were extremely firm, and the advances were all the sharper because of the fact that the georgettes have languished up till two weeks ago. Manufacturers stated that they had no difficulty in getting 5 to 10c a yard more than they were asking three weeks ago which prices put this quality right on the basis of present raw silk levels. The keen desire of jobbers to get the georgettes in work and ready is seen in their willingness to pay premiums of up to 5c a yard for spot deliveries.

In the qualities that have been good right along, business was held up to some extent by the small stocks held by manufacturers. Shipments have been so heavy through the months of January and February that practically all mills that have been working on the flat crepes and satin crepes and also the crepe-de-chines find themselves unable to promise deliveries earlier than two weeks to a month. The cutting up trade seems to be fairly well covered for the current month on the qualities mentioned above and it is to be questioned whether they would place other than filling in orders from now up till Easter.

In view of the continued conservative policy which the retail stores have held to throughout the current month, sales to this quarter have been somewhat smaller than was hoped for. Store buyers, moreover, have resisted any tendency to raise prices. It was believed at the beginning of the present season that the retailers would relax in their determination to stress turnover to the exclusion of all else but so far there has been no indication that they are in a mood to oblige the manufacturing element. When raw silk got up to the $7.00 level around the middle of the month, manufacturers raised their prices 2½c a yard with fear and trembling. Actually they should have gotten 4 to 5c more if the actual increased cost of the silk is to be considered but even the smaller increase was difficult to get. As a matter of fact, buyers raised so much fuss over it that it is safe to say that 80% of the mills continued to sell on the basis of $6.50 silk.

About the best merchandise to get a profit on today is the prints. There is little or no difficulty in getting high prices for desirable designs and almost anything that is printed will move. The larger print houses look for a continued demand for prints right through the summer, leading up to an equally active fall.

SILK SITUATION AT A GLANCE

PRODUCTION:	Unchanged to gaining slightly
DEMAND:	Good
STOCKS:	Small in all wanted numbers
RAW SILK:	Stocks smaller; prices steady
SENTIMENT:	Very optimistic; manufacturers contemplate no reduction in operations

ACTIVE SILK STOCKS ON NEW YORK STOCK EXCHANGE
(Week ending March 3rd)

1925 High	1925 Low	Stock	Sales	High	Low	Last
43	31½	Century Ribbon Mills	7,500	43	38⅞	42¾
27¾	22	Julius Kayser & Co.	1,100	23⅝	23	23
37½	27	H. R. Mallinson & Co.	3,100	29¾	28⅞	29
21½	20	Van Raalte & Co.	.....	....	....	....

Heavy Bourse Trading

By *William A. Spafford*

THE exceptionally heavy trading on the Yokohama Bourse which marked the closing days of February aroused the interest of the trade in New York to an unusual degree. Manufacturers and dealers regarded the 1,500 and 2,000 bale days and asked "How come?" The exact significance of the whole proceeding will always be more or less of a mystery except to those who were responsible for it, but one can hazard a guess that may be close to the mark.

On Feb. 21 trading increased from the usual 400 to 500 bales a day to 700 bales and prices were down 10 Yen for the current month from 2135 to 2125. They increased again on Feb. 23 to nearly 1,000 bales with prices off 30 Yen this time. Things were geared up another notch on Feb. 24 with 1550 bales sold, prices slipping again. This high rate was maintained through the balance of the week and it is interesting to note that the February delivery closed at the low point 2050 Yen. During the whole of this period the open market was sliding in sympathy with the heavy selling on the Bourse. On March 2 trading reached its maximum, the impressive total of 2,400 bales changing hands. At this crucial moment the open market became suddenly active again 1,000 bales being bought and this buying continued on March 3, exporters taking 2,400 bales.

So much for history, now for the explanation. It will be remembered that back in the months of October and November, prices were on a low

(*Continued on page* 159).

SUMMARY OF SILK CABLES

Best No. 1/X Yokohama	2040 Yen
Exchange at 3 m/s	40⅜
Cost C.I.F. New York	$6.56
Stocks Yokohama Feb. 28	11,500 bales

The underselling reported by most cables toward the close of the previous week, resulted in an actual decline on Saturday the 28th. While prices were off 40 to 50 Yen, the rather sharp drop did not bring in buying. On Monday, March 2nd, however, at a further 30 Yen decline transactions increased to 1,000 bales. This left the market on the basis of 2070 Yen for XXA and 2010 Yen for Best No. 1/X, which apparently was a level at which exporters could operate advantageously for transactions the following day increased again to 2,400 bales at a 30 Yen advance. Canton silks rallied from the extreme low but buying was not heavy. The low quotations for Canton silks in New York are the result of the lower exchange for actual parities abroad have not gotten below the bottom of December.

Spring Millinery Accents Ribbons

Spring Openings Find Silk Ribbons Used Largely for Many Purposes

A great many of the department stores held their advance showings of spring millinery last week and these together with the models shown by the specialty shops gave a pretty fair indication that silk ribbons are to be the favored trimming. Silk and straw combinations were seen often, and it must be admitted that the larger types mentioned earlier seem to have given way to the small shapes. Grosgrains, taffeta, and fancy ribbons were used in many models with black satin also favored. Plaided designs were used to a smaller extent.

While the Paris models indicate a liberal use of ribbon trimming, millinery buyers were not active in the market last week. This was more than made up by active demand from the retailers who according to several houses, find that sales have been better over the counter than expected. The dress houses were reported as moderately active but not operating much in advance of what they know they will need. It is believed that much buying remains to be done by the last named during March as reorders on spring numbers come through. Buyers were reported as interested in a wide range of qualities with possibly more demand for the grosgrain than in past weeks.

Raw Silk Lower

Prices Lower as Yokohama Sags

Although prices in New York rallied before the end of the week, final quotations were still below levels of the previous week. The trend was well defined as the Yokohama market made it advantageous for importers to sell here and cover abroad. Sales through the early part of the period were heavier but the real spurt in buying did not come until Saturday the 28th when two of the largest importers put the quotations down to the basis of $6.50 for cracks. At this figure many manufacturers covered and the buying continued on Monday. Sales in New York were reported the largest of the month indicating that mills can and will operate on the basis of $6.50 for cracks. Prices are as follows:

(90 days basis)

Japan Filature, Grand Double Ex..	13/15	$6 80
Japan Filature, Double Extra A...	13/15	6 65
Japan Filature, Double Extra B...	13/16	6 60
Japan Filature, Best X.....	13/15	6 55
Japan Filature, X.....	13/15	6 52½
Japan Filature, Best No. 1/X.....	13/15	6 47½
Canton Filature, New Style.....	14/16	5 50
Canton Filature, New Style.....	20/22	6 02½
Italian Grand Extra Classical, open size..		6 80
Tsatlee Reeel, "Blue Dragon and Flying Horse"		5 60
Tussah Filature, eight cocoon.....		3 30

LANE
CANVAS BASKETS

FIG.20

OBLONG STYLE

Made also square. Some are perforated for steaming. Others mounted on sturdy casters. All are perfectly smooth inside.

Have established an enviable reputation among mill men for economical and uniformly satisfactory performance.

Standard for 30 years

FIG.22

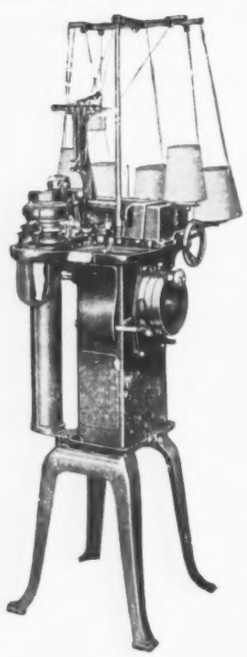
ROUND STYLE

All Lane baskets built on spring steel frame with flexible eye joints. The yielding quality of this construction prevents bending or breaking.

Write for Catalog No. 90.

W. T. LANE & BROS. — Manufacturers — POUGHKEEPSIE, N. Y.

BRINTON KNITTERS



The *convenience* of this style "C" Brinton Hosiery Knitter is second in importance only to the high grade stockings it produces.

All parts are accessible from the front or top of the machine. Action of needles and yarn changer easily visible from front of machine. Screw adjustments throughout. Simple and easy transfer. Direct and accessible pattern connections.

Fast speed in both circular and reciprocating motion. Driving mechanism removable from frame as a unit. Revolving can for string work. Run off each stocking if desired.

Foreign Agents

Great Britain and the Continent
Wildt & Co., Ltd., Leicester, England.

South America
Santiago Scotto, Galeria Guemes, Buenos Ayres, Argentine Republic.

Australia
I H Butler & Co., Sydney — Melbourne.

China and Japan
Elbrook, Inc., 51 Kiangse Road, Shanghai, China.

H. BRINTON COMPANY, Phila., Pa.

MILL NEWS

COTTON

New Construction and Additions

FLORENCE, ALA. Contract for plumbing and other improvements in 50 houses in the Ashcraft Cotton Mills' village has been awarded to the Muscle Shoals Plumbing & Heating Co. The improvements will cost a little over $20,000. It is also announced that the Ashcraft mills will build several new houses and expand facilities for housing employes.

NEWNAN, GA. Among other improvements being made in the Newnan Cotton Mills is the installation of a complete humidifying system by the American Moistening Co., Boston.

TRION, GA. The Trion Co. will install 100 new looms for manufacturing heavy drills. This additional machinery has been ordered from the Draper Corp., Hopedale, Mass.

BIDDEFORD, ME. The Pepperell Mfg. Co. has awarded a contract to the Saco-Lowell Shops, Boston, for about 100 latest design spinning frames. These frames will replace the ones shipped from Pepperell to the company's new plant at Opelika, Ala.

BROOKLYN, N. Y. Fred Mitchell has started the manufacture of cotton, silk, mohair and wool plushes under the name of Elite Plush Co. at 77 Washington Ave. Initial equipment consists of eight looms and auxiliary preparatory and finishing machinery. Mr. Mitchell buys yarns.

GASTONIA, N. C. The Hanover Thread Mills, Inc., are installing five new Saco-Lowell cards.

HENDERSON, N. C. The Harriet Cotton Mills are installing a new humidifying system in a part of one of their plants. The Bahnson Co., Winston-Salem, N. C., has the contract.

*SHELBY, N. C. The Shelby Cloth Mill is the name selected for the new textile plant to be erected in Shelby by E. T. Switzer, formerly of Gastonia, O. Max Gardner, O. M. Mull, George and C. C. Blanton, of Shelby. Contract has been let for construction of 40 tenements and the contract for building the mill will soon be awarded. The new plant will make fancy dress goods, using cotton and silk yarns. Mr. Gardner is president; Mr. Switzer secretary-treasurer and Mr. Mull, assistant treasurer.

PHILADELPHIA, PA. Baxter, Kelly & Faust have taken bids on a general contract for the construction of a two-story mill addition on Tioga St. between C and Arbor Sts., 54x194 ft., for which award will soon be made. The Ballinger Co., Philadelphia, is architect.

*PHILADELPHIA, PA. The new plant to be erected by Bolger Bros., 1139 E. Chelten Ave., waste manufacturers, will consist of a two-story brick building, 45x106 ft. and 40x70 ft., at Chelton Ave. and Anderson St. Contract has been let and building permit issued.

PAWTUCKET, R. I. The Potter Fine Spinners, Inc., heretofore manufacturers of yarn, have installed 160 looms for the production of broadcloth and other fine goods. The Jamieson Textile & Commission Corp., New York, are the selling agents for their new product.

WESTERLY, R. I. The Lorraine Mfg. Co., is installing 48 new Crompton & Knowles automatic box looms in the Westerly plant.

GAFFNEY, S. C. The Irene Mills, manufacturers of table damask, have ordered a new system of humidification installed by the Bahnson Co., Winston-Salem, N. C.

*CHATTANOOGA, TENN. The Dixie Mercerizing Co. is progressing with construction of the two-story addition to its spinning mill in which 3,000 new spindles will be installed. Humidification system will be installed by the American Moistening Co., Boston. Robert & Co., Atlanta, Ga., are the engineers in charge.

Fact and Gossip

CHICAGO HEIGHTS, ILL. The Forster Textile Mills have arranged for an increase in capital from $200,000 to $255,000.

BALTIMORE, MD. Chesapeake Belting Co., manufacturers of heavy cotton duck, and the Homewood Cotton Mills, cotton yarn spinners, are preparing to open after a shut-down of about two years and are changing the latter mill from steam to electric power which they will buy from the local electric company.

*HOUSATONIC, MASS. The Monument Mills have resumed operations after a week's shut down, the question of wages being left to an arbitration board of three men. The union employes who threatened to strike against a 10% cut have agreed to abide by the decision of such a board.

TAUNTON, MASS. It is reported that the Corr Mfg. Co., whose stockholders recently voted unanimously in favor of reducing the capital stock from $500,000 to $50,000 and issuing 4,500 shares of new stock, par $100, to present stockholders, will install new equipment for the production of fancy goods.

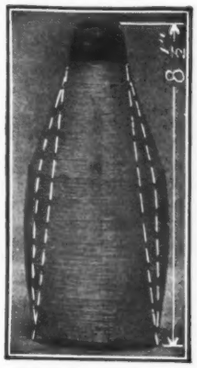
*CARTHAGE, N. C. From present indications the cotton mill for Carthage seems assured. Ample capital is in sight and the only thing holding the project in abeyance is the securing of an experienced mill man to manage the plant. A well-known Carolina mill man, one of the pioneers in the industry in this state who has disposed of his mill interests was in Carthage the past week in conference with the promoters of the mill. A site of 30 acres located on the railroad and with natural water facilities is available for this project.

CHARLOTTE, N. C. It is reported that Carol Talliaferro has purchased 40 looms for the manufacture of fine dress goods which will be installed in a local building.

DURHAM, N. C. City extension will probably mean the removal of the local Erwin Cotton Mills and allied plants to a location outside the new city lines. Erwin Interests in Durham include the Erwin Cotton Mills, the Durham Cot-

*Indicates previous mention of project.

#3 Cone 10½ x 3½
#4 Cone 8½ x 3½
#10 Cone 8½ x 4½



#11 Cone 10½ x 4½
#12 Cone 12½ x 4½

Yarn Wound Package by the 2-B Winder
150 D.—20 oz.
150 D. & 3 Thd. Comb.—16 oz.
Patented Feb. 6, 1917.

PLAIN FACTS

That are true to measure for the inside and outside of Knitting Machine Requirements.

Cup Builder Winders and Automatic Mechanical (Cupless Builder Winders). Both with Patented Non-Lift Easy Starting Spindle (One Finger Control). Patent Applied for. Fool Proof Knot and Slub Catcher. Use one to each Spindle and Guaranteed.

YOUR CHOICE

But our experience will tell you both sides, and we will get under the load, and lift your burdens, and show you how to wind and knit all kinds of yarns.

JACOB K. ALTEMUS

Established 1865

American St., below Lehigh Ave.
PHILADELPHIA, PA.

Approximately ninety per cent of all American Manufacturers of full-fashioned hosiery—leading the world in the production of finest, ladies' silk hosiery—are using "Reading" Full-Fashioned Hosiery Machines.

TEXTILE MACHINE WORKS
Reading, Penna.

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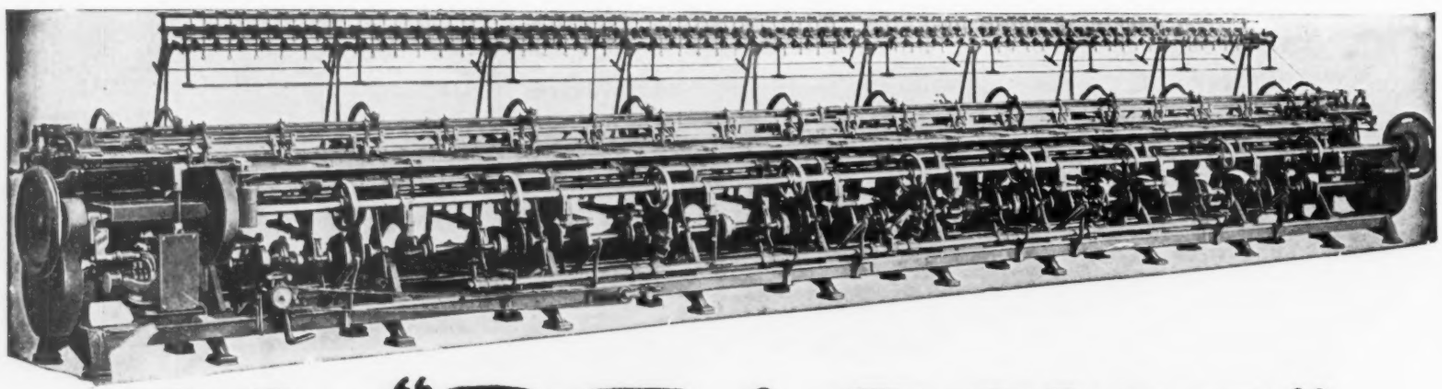


The "READING"

FULL-FASHIONED HOSIERY MACHINE

Mill News—Continued

ton Mfg. Co., and the Pearl Cotton Mills, only the latter of which is within the present city boundaries. The other two will be included within the new lines which become established after midnight March 31. For some weeks past real estate agents, acting for the Erwin interests, have been securing options upon large tracts of land west of the city. The transactions are believed to involve between four and five thousand acres. Options begin to expire the first of March, but much of the land has already been purchased and paid for. It is regarded as certain that the three plants will be moved to the new site and a new community is expected to take form within the next year in Durham county. Just what will be done with the old buildings is uncertain.

LONG SHOALS, N. C. The charter of the Long Shoals Cotton Mills has been amended to provide for an increase in the capital stock from $300,000 to $400,000 and for the issuance of preferred stock.

MORGANTON, N. C. The Erwin Parish House, adjacent to Grace Episcopal church, was formally dedicated and turned over to the church last week. The building was erected at a cost of $40,000 and is the gift of the children of the late Joseph J. and Elvira Erwin, the children being among the leading textile men of the state. They are W. A. Erwin, secretary and treasurer of the Erwin Cotton Mills Co., Durham; J. Harper Erwin, secretary and treasurer of the Pearl Cotton Mills, Durham; J. Ernest Erwin, secretary and treasurer of the Alpine Cotton Mills, Morganton.

SHELBY, N. C. A bill has been introduced and is expected to pass the legislature without difficulty extending the corporate limits of the city of Shelby for one and a half miles each way from the court house. This extension will take in the textile plants situated in the vicinity of Shelby which have heretofore been free from city taxes. The mills will not have to help pay any of the bonded indebtedness of the city for three years although they will be permitted to vote and enjoy all the privileges of the city.

TUXEDO, N. C. The Green River Mfg. Co., is reported to be planning additions to buildings and machinery.

PHILADELPHIA, PA. American Textile Banding Co., Belfield Ave. & Wister St., spinning and twisting tapes, was slightly damaged by fire last week, damage to their building being confined to the first floor. The loss is estimated at about $3,000.

PHILADELPHIA, PA. Brooks Bros., 4841 Lancaster Ave., tapestry and drapery piece goods, have had plans drawn by Amos W. Barnes, Perry Bldg., for the erection of a mill building at the above address, on which bids were to be received on March 4.

COLUMBIA, S. C. Coltex Fabrics, Inc., has been chartered with $250,000 capital by Ernest Sumner of Columbia and Gerald Sumner of New York, to manufacture cotton belting.

ROCK HILL, S. C. A large textile plant may be constructed at Kings Creek in the upper section of York county in the near future at a cost of $100,000, according to reports. Citizens of the county backing the development say that approximately $60,000 worth of stock has already been sold. Behind the project are A. W. Love, Wesley Love and William Foulkner.

GREENEVILLE, TENN. Dever Little, of Gaffney, S. C., a textile mill man who has had long experience in that business, was in Greeneville last week looking into the local situation and possibilities for a textile mill there. It is said that he was favorably impressed.

*GALVESTON, TEX. The Nobska Spinning Co., Taunton, Mass., is carrying on negotiations with the Galveston Chamber of Commerce for moving the Taunton mill of 15,000 spindles, to Galveston. The Nobska company has been seeking a Southern location for several years and has considered various propositions but it now seems certain that the move will be made. It is said that subscriptions aggregating over $1,000,000 have already been raised locally for the project. F. W. Nichols, Jr. is treasurer of the company.

* Indicates previous mention of project.

WOOL

New Construction and Additions

WINTHROP, ME. Bids will close on March 9 for the general contract for the erection of an addition for the Winthrop Mills Co. It will be of brick, mill construction, four stories high, approximately 65 x 200 ft., with two stair towers and an elevator tower. F. P. Sheldon & Son, Providence, R. I., are the architects and engineers.

Fact and Gossip

DANIELSON, CONN. The River Weaving Co., Inc., is now running its plant three nights a week until 9 o'clock in order to keep up with heavy production demands.

ROCHDALE, MASS. The Weaving department of the Rochdale Mills of the American Woolen Co., resumed operations on March 2, after curtailing schedules.

MANCHESTER, N. H. The worsted division of the Amoskeag Mfg. Co., excepting the weaving department, has returned to capacity production after operating on a 50% basis during January and February. Material for sport skirts, ladies' and men's suitings, coverings for Pullman car seats and automobile linings are keeping the division occupied at this time.

AMSTERDAM, N. Y. The McCleary, Wallin & Crouse branch of the Mohawk Carpet Mills, Inc., has increased operations and is now running near capacity.

PORTLAND, ORE. A. R. Jacobs, president of the Oregon City Mfg. Co. with plant at Oregon City, has announced the opening of a new store about April 1 in the Corbett building, Fifth and Morrison Sts., Portland. The stock will come from the plant of this company, to consist of overcoats and all outside wearing apparel, lounging robes, blankets, etc.

PHILADELPHIA, PA. A charter of incorporation has been granted to the Columbia Rug Mills, Inc., having a capital of $50,000. This application was made

CHARLES COOPER'S
Machine and Needle Works
BENNINGTON, VERMONT

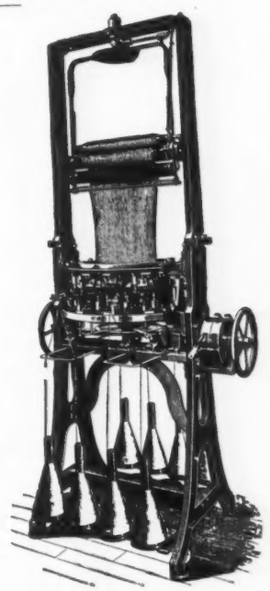
G. H. ROGERS, Representative, 153 Ontario St., Albany, N. Y.

Spring and Latch Needle KNITTING MACHINERY

STANDARD FOR
Plain Ribbed, Circular and Flat Underwear
Shirt Cuffs
Drawer Bottoms

Rib Cuff Cutting Machines
Burr Wheels and Burr Blades
Balmoral Collarette Machines
Automatic Rib Cutting and Folding Machines

SPRING AND LATCH NEEDLES


Spring Needle Rib Body Machine

SOLE AGENTS FOR CHINA
ELBROOK, INC., 51 Kiangse Road, Shanghai, China

Established 1870 Incorporated 1890

Get Repeat Orders by Using

Crane Spring and Latch Needle Knitting Machinery

SOME CRANE FEATURES

Patent removable hardened Wing Burr Wheels.
Patent Thread Stop Motion can be fitted to 20 in. and 32 in. frames and are specially adapted for making fine Jersey Cloth and Stockinet.
Our flat machine is adapted for knitting collarettes.

SPRING NEEDLE UNDERWEAR MACHINE WITH AUTOMATIC TAKE-UP

This machine is made in sizes from 13" to 20" in diameter of any desired gauge, the number of feeds depending on the size of cylinders. Also built in sizes from 2½" to 32" in diameter for the production of a great variety of fabrics.
Aside from the feeds for plain fabrics, the stockinet, eiderdown and astrachan feeds are superior to any on the market.

IMPROVED AUTOMATIC COLORED PLAIN STRIPER

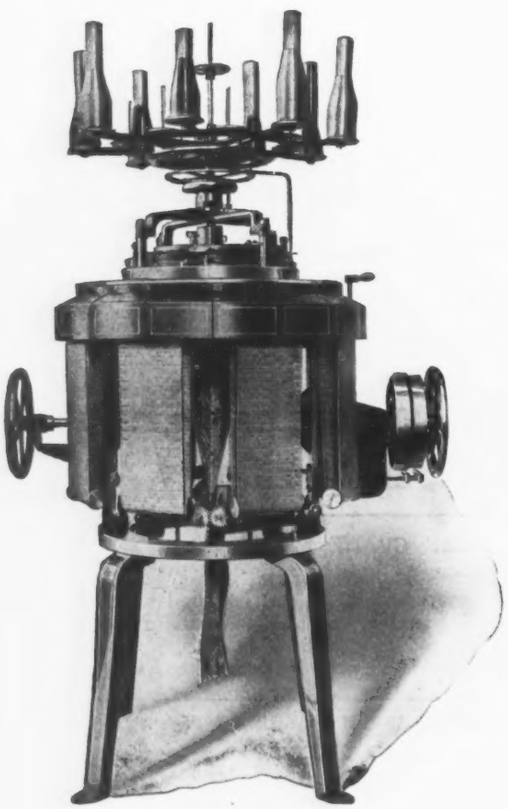
Made in sizes from 7⅝" to 20⅝" inclusive, of any desired gauge; these measurements being back to back of cylinder needles.
The fabrics from this machine are used for bathing suits, theatricals and athletic goods.
These machines are second to none on the market.
The Crawford stop-motion is applied when requested.

"It Pays to Use Good Machines and the Best Are None Too Good."—Our Motto

LET US SEND YOU FURTHER FACTS

CRANE MANUFACTURING CO., Lakeport, N. H.

A Few Examples of Many. Do you make any of these products?



For all KNITTED OUTERWEAR

Here is the GREATEST ACHIEVEMENT in the History of the Knitting Industry

"A CIRCULAR JACQUARD KNITTING MACHINE"

Simple in design and sturdy in construction. Does not require experienced operators.

Equal in production to a plain circular machine which is ***much greater than the flat machines.***

Can make any pattern imaginable in one, two, three or four colors.

Patterns are punched on ***paper*** in a short time and at very small cost.

Patterns can be changed in ten to fifteen minutes.

Machine can make dress or sweater length with welt and selvedge bottom.

Not limited to quality of yarns — runs cotton, wool or silk.

FOR THE PRODUCTION OF { **Jacquard Fancy Tops for children's 7/8 Hose, or Golf Hose Sweaters, Dresses, Blankets, Draperies, Caps, Shawls, Bathing Suits, Piece Goods.**

The Jacquard Knitting Machine Co., *Inc.*

(New Address)— 1924-28 Hunting Park Ave., Philadelphia, Pa.

Mill News—Continued

by David H. Stroud, who operates a rug manufacturing plant at 10th St. and Allegheny Ave., heretofore trading under his own name or Columbia Rug Mills.

PHILADELPHIA, PA. Premier Rug Mills, S. E. Cor. Bodine and York Sts., woven and braided rag rugs and carpets, have changed the name of this concern to the Premier Textile Mills, which will be continued at the same address. They have discontinued the manufacture of rugs and carpets and have installed 6 broad looms and other equipment on which commission warping and weaving of men's wear and dress goods will be done. S. Udych is the buyer and Chris Davis, superintendent.

PHILADELPHIA, PA. Wishart Worsted Co., commission weavers of men's wear and dress goods, formerly located at B. and Wishart Sts., have moved to Mutter St. and Lehigh Ave.

CHEPACHET, R. I. The Bedford Woolen Mills which shut down on Feb. 13 have resumed operations. Lawrence G. Prendergast, of Chepachet, a former superintendent of the mill is acting as superintendent, taking the place of James E. Graney who resigned.

KNIT

New Construction and Additions

HUNTSVILLE, ALA. According to officials of the local Chamber of Commerce a hosiery company will open a branch plant in Huntsville in the early spring and give employment to between 60 and 100 operatives. The name of the mill has not yet been disclosed.

*BARNESVILLE, GA. The Carter-Collier Co. has awarded contracts for material and machinery for the new bleachery to be erected here at a cost of about $150,000. Construction work will soon start.

FULTONVILLE, N. Y. The M. Y. E. Co., Inc. has purchased the DeGraff property on Main St. and will convert the large barn into a mill as soon as the weather permits.

*SALISBURY, N. C. Work has been started on the erection of a new plant for the Wallace Wilson Hosiery Co. of Philadelphia, which has been operating a branch in a section of the Vance Cotton Mills. The new building will be a 250x100 ft. structure on East Steel St.

*THOMASVILLE, N. C. The Maurice Mills Co., recently noted chartered, will manufacture hosiery. Their finishing building will be ready about April 1 and they will install knitting and other machinery in the building formerly occupied by the Thomasville Knitting Co. until the main building can be completed. Operations are expected to start around the middle of April with an initial equipment of 50 Model R I knitters, eight loopers and four sewing machines. Additional machinery will be installed later in the year.

*BROWNSTOWN, PA. The Conestoga Hosiery Co. plans to rebuild its mill which was destroyed by fire about four weeks ago. Crossed electric wires were blamed for the fire, which caused about $80,000 damage.

* Indicates previous mention of project.

LANSDALE, PA. The Lansdale Silk Hosiery Co. is considering tentative plans for the erection of a one-story brick addition to its mill on Line St.

*ROANOKE, VA. It is said that the Viscose Co. has started construction of additions to its local plant that will cost about $200,000.

YUCATAN, MEXICO. George a Rivas, 4427 Chestnut St., Philadelphia, Pa., plans to establish a knitting mill in Yucatan.

Fact and Gossip

WORCESTER, MASS. The Worcester Knitting Co. is operating at full capacity, making from 1200 to 1500 bathing suits daily. The normal force has been increased from 50 to 125 and is being added to every day. The floor space has been doubled within a few months.

DULUTH, MINN. Fire recently damaged a portion of the West Duluth Knitting Mill at 5020 Roosevelt St. An official estimate of loss is $35,000. The plant will be rebuilt.

AMSTERDAM, N. Y. The Progressive Silk Mfg. Co. is running its mill on full time, with overtime schedules in effect in some departments.

COHOES, N. Y. The Atlantic Mill of the Roff Knitting Mills, Inc. has resumed night operations.

FORT PLAIN, N. Y. The Amidon-O'Day Textile Mills, operating a silk jersey plant here, were granted a charter last week by the Secretary of State with an authorized capital of $30,000.

FORT PLAIN, N. Y. The Bailey Knitting Mills have taken on additional help in the spinning department for night work.

HUDSON, N. Y. The Sirmount Knitting Mills is the name of a new concern incorporated last week with $20,000 capital to manufacture knit goods.

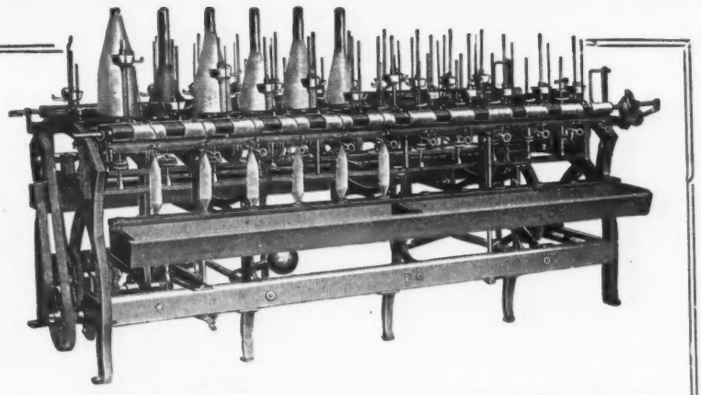
PHILADELPHIA, PA. H. C. Aberle Co., Clearfield and A Sts., women's full-fashioned hosiery manufacturers, have purchased a plot of ground, 500 x 195 ft. at Clearfield and A Sts. The purchasers are not yet ready to disclose their future plans in regard to this ground.

PHILADELPHIA, PA. Triangle Neckwear Co., 605 Spring Garden St., knitted neckwear and reefers, have leased premises on the N. E. Cor. Ninth and Spruce Sts., and will be located on the fifth floor of this building.

READING, PA. Most of the textile mills here have increased their scale of operations, although in most cases the increases were small. The present volume of orders, it is stated, is sufficient to maintain the current rate of operations for several months.

SHOEMAKERSVILLE, PA. The Globe Underwear Co. has put on a night shift.

SLATEDALE, PA. The Slatedale Knitting Mills, Inc. have been reorganized, the interest formerly held by I. C. Eberly having been acquired by M. N. Blumberg, who is now president and treasurer and Harry S. Fitchthorn having disposed of his interest in the concern to B. F. Albright, secretary of the Oakbrook Hosiery Mills, Inc., Reading, Pa., who assumes the secretaryship of the



PAYNE WINDERS

Wind from Cop, Skein or Bobbin

Over 1,900 in use by Hosiery Manufacturers

IMPROVED UPRIGHT SPOOLERS

To Spool from Cop, Skein or Bobbin; Doubling Spoolers for Doubling two, three or more ends into one; Upright Quillers, Quill from Cop, Skein or Bobbin. Ring Dresser, Spooler and Reel Spindles, Cop Skewers, Spooler Guides, Bolsters and Steps Made and Repaired at Short Notice.

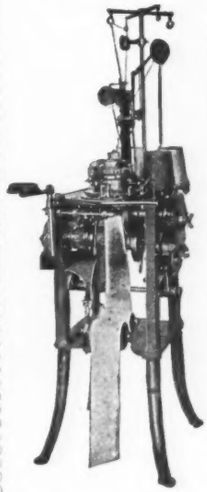
GEO. W. PAYNE CO., Office, 102 Broad St., PAWTUCKET, R. I.

(Est. 1865, Inc. 1903)

CHARLES W. PAYNE, Pres. CLINTON F. PAYNE, Sec'y and Treas.

NEEDLES and MACHINES OF *RECOGNIZED* QUALITY and WORTH

Acme A

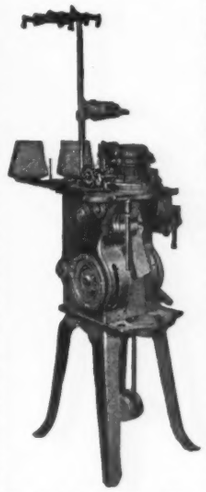


Revolving Cams

are the ACME PRODUCTS made for SERVICE in the KNITTING ROOM

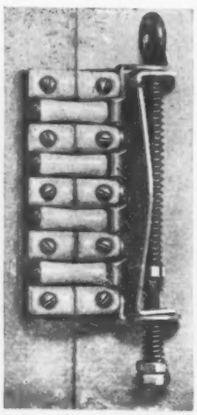
Ask those who use them

Acme D

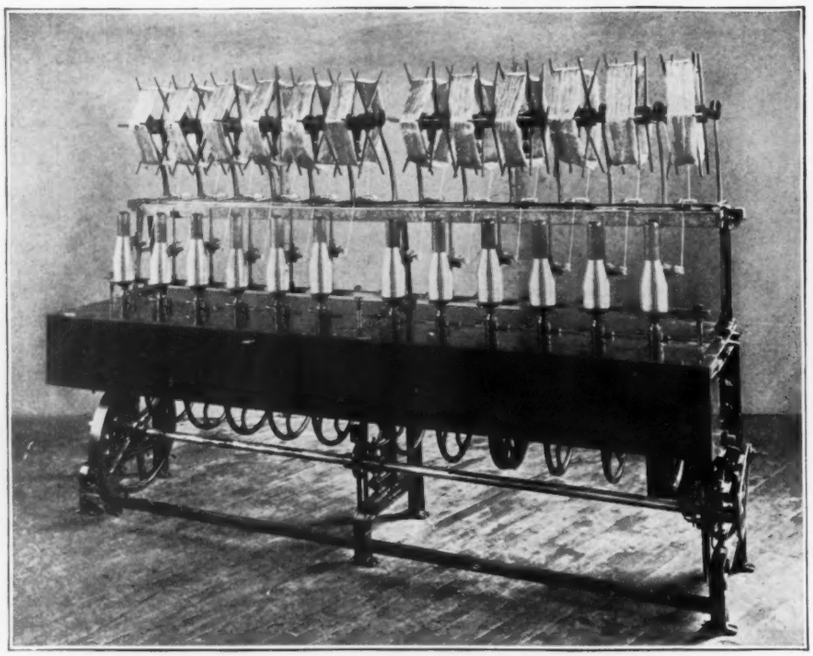


Revolving Needles

Acme Knitting Machine and Needle Co., Franklin, N.H.

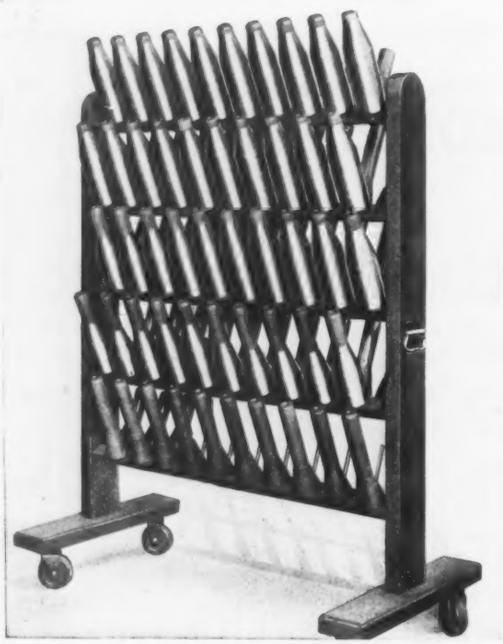


PORCELAIN
CLAW
TENSION



BOTTLE BOBBIN WINDER

STEEL DISC
TENSION
HARDENED AND
GROUND



ROCK MAPLE BOBBIN RACK

100 Pins evenly and so spaced, as to prevent the Bobbins coming in contact with each other while moving from Winder to Knitting Machine. You will find this Rack as RIGID as all Lever Products. Equipped with Large Rubber Tired Casters which act as SHOCK ABSORBERS—a necessity in handling ART SILK.

Lever Bottle Bobbin Winders are equipped with a special lever designed contact cup builder, which is the only positive way of building a perfect free delivering package without a blemish.

OSWALD
LEVER
CO., INC.
PHILADELPHIA
STARTED IN 1880

Mill News—Continued

Slatedale mills. Eugene F. Krum remains vice-president and superintendent. All business of the corporation will hereafter be transacted in the office of Mr. Blumberg at 350 Broadway, New York.

LONDON, ONT., CANADA. Supersilk Hosiery, Ltd., has been organized in this city and will operate as manufacturers of and dealers in hosiery. An Ontario charter has just been granted, the authorized capital being $150,000. Among the incorporators are W. S. Thompson and J. G. Thompson, manufacturers, of London.

WOODSTOCK, ONT., CANADA. Judgment has been issued in favor of the defendant in the suit of Hosiers, Ltd., of Woodstock, against Penman's, Ltd., of Paris, Ont. The plaintiff alleged a certain infringement on their patent rights on a machine by which pointed heel hosiery was made. The process was claimed to be sole property of Hosier's Ltd. The case was dismissed with costs.

SILK

New Construction and Additions

*HIGH POINT, N. C. Representatives of the Hillcrest Silk Mills, of West New York, N. J., were here recently making plans to go ahead with the erection of a plant on a six acre tract near the tracks of the High Point, Thomasville and Denton Railroad Co., in the southwestern section of High Point. Arrangements for the construction of a side track 800 ft. long have already been made with the railroad company. Lockwood, Greene & Co., engineers, Boston and Charlotte, are preparing plans for construction of the first unit of the plant.

FREELAND, PA. The Washington Silk Co., is said to be considering the erection of a two-story brick mill on Washington St., for which it is proposed to select an architect to prepare plans at an early date.

*PAWTUCKET, R. I. The Darlington Textile Co. expect to have its new three story brick addition, having 35,000 sq. ft. of floor space, completed within the next month. Nearly $60,000 worth of new machinery will be installed. It is said that at least 75 persons will be added to the present working force when the extension is completed.

Fact and Gossip

HARTFORD, CONN. J. J. Ruttlinger, silk manufacturer, is seeking a location for a mill here and asking $75,000 financial assistance, to be repaid shortly. Action will be taken at the next meeting of the Chamber of Commerce.

*SOUTH MANCHESTER, CONN. Cheney Bros. have been granted rights by the Connecticut General Assembly to amend their charter increasing capital from $15,000,000 to an amount not to exceed $25,000,000 and declare stock "no par value."

PATERSON, N. J. The Augusta Broad Silk Works, Inc. have been chartered under state laws with capital of $100,000, to operate a local mill. Edmund B. Randall, 152 Market St., Paterson, has been appointed representative for the company. The incorporators are Charles Kaspar and Jacob Greenbaum.

PATERSON, N. J. The Craftweave Silk Co., 132 Market St., has been organized with capital of $75,000 to manufacture and sell silk piece goods. Isadore Silip is one of the incorporators.

PATERSON, N. J. The Perfect Textile Mills, Inc. have been chartered under state laws with a capital of $100,000, to operate a local silk mill. Joseph Miller, 48 Straight St., Paterson, one of the incorporators, has been appointed company representative. Other incorporators are Annie Miller and Beatrice Moran.

*ALLENTOWN, PA. The Stuyvesant Silk Co. is said to be considering tentative plans for rebuilding its one and two-story mill, 60 x 225 ft., recently destroyed by fire. The boiler house, water tower, and pumping station were saved.

CATASAUQUA, PA. A 60-ft. water tower at the local mill of the Amalgamated Silk Corp. was blown down during a wind-storm on Feb. 26, wrecking the roof of the engine house and causing other minor damages.

LOCK HAVEN, PA. The Clinton Silk Co. has been incorporated under state laws with a capital of $25,000, to operate a local mill. Harry Bartman, Pottstown, Pa., has been elected treasurer.

HARRISONBURG, VA. It is reported that the Stehlisilks Corp., with main plant at Lancaster, Pa., intends to build an addition to its local mill early this year. This mill has been running 24 hours per day for the last two years. P. H. Hardy is superintendent.

DYE, BLEACH AND FINISH

New Construction and Additions

*KITTERY, ME. The Quality Bleaching & Finishing Co., recently noted incorporated for $1,000,000, will build a plant but the location has not yet been decided. They will install the latest type machinery for bleaching, dyeing and mercerizing. James Rowe, Box 75, Exeter, N. H., is secretary of the company.

PHILADELPHIA, PA. The Harman Bleachery Co. has awarded contract to Armstrong & Latta Co., Philadelphia, builders, for the erection of a bleachery building at Rhawn St., west of State Road which will cost $2,500.

MISCELLANEOUS

New Construction and Additions

OPELIKA, ALA. The Moon Sleep Ezy Mattress Co. plans to install additional equipment in its plant. Roy Brown is general manager.

WORCESTER, MASS. Plans have been completed for a $40,000 addition to the plant of Louis Krintzman, woolen waste, at 29A Harrison St. It will be of brick construction, four stories high, 60 x 39 ft. E. T. Chapin, 340 Main St., is the architect.

PHILADELPHIA, PA. The Imperial Mfg. Co. has leased the fourth floor in the building at 1027-29 N. Front St. and will equip for the manufacture of oval braided rag rugs.

* Indicates previous mention of project.

MARKEM
Reg. U. S. Pat. Off.

Compare the marking on these labels

HOSIERY SIZE 9½
ashioned NAVY
SILK AND COTTON 10½
NS. WOOL HOSE
LF DOZEN SIZE 40
EECE LINED
WERS
STYLE A 1 BERKSHIRE HOSIERY SIZE 9½
MENS
Full fashioned NAVY
TOMHWK Ladies' Full Fashioned Hose 3-12 DOZEN
PURE DYE SILK AND COTTON 10½
M-6 GRAY MENS WOOL HOSE
STYLE 19/4 WHITE ONE HALF DOZEN MENS FLEECE LINED DRAWERS SIZE 40

Rubber Stamped Marked by Model K

Which is yours?

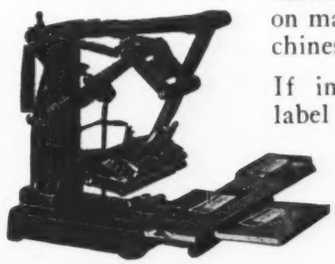
The distributor of the manufacturer's merchandise keenly appreciates the style of marking that the Markem Model K Machine accomplishes.

All imprints are made in their correct spaces. Three or more imprints can be made at one operation, either on hosiery or underwear labels before they are attached to the box or after they are attached to the box, giving the style, the size and the color.

Arranged to Mark Labeled Box

The imprints are uniformly clean and readable and the ink does not fade. This machine will enable you to make deliveries on your merchandise. Ordinarily you would be waiting for your printer to print your labels and then perhaps hold them for the ink to dry before delivering them to you.

Our entire time and attention is devoted to the manufacture of and giving service on marking and embossing machines and equipments.



Arranged for Loose Labels

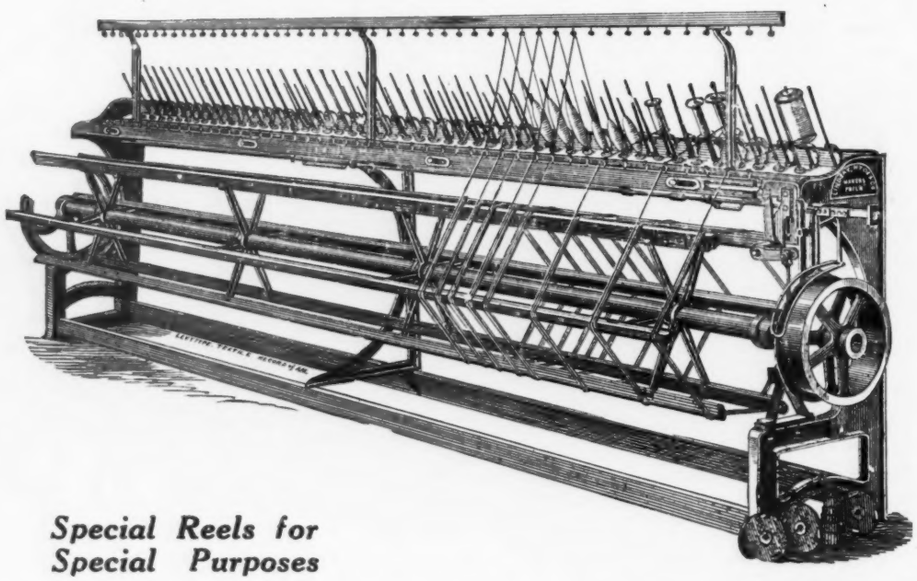
If interested, submit style of label you are using and information regarding marking you desire. We will be glad to imprint these samples on our Model K and return them to you for your inspection.

Markem Machine Co.
232 Summer St., Boston, Mass.
Manufacturing Plants at Keene, N. H., and Boston, Mass.

REELS, BUNDLING MACHINES WINDERS

Reels built to reel from cops, bobbins or cones into 54″, 72″ and 90″ skeins.

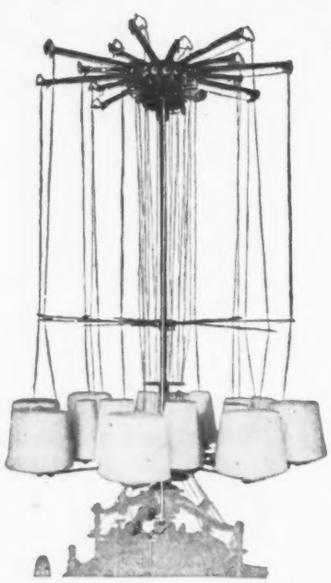
Individual Motor drives for any Reels of our make. Write for information on new "Swivel Top Motion" used in Worsted Mills for overhead Reeling from double headed bobbins.



Special Reels for Special Purposes

LINDSAY, HYDE & CO., PHILADELPHIA, PENNA.

Crawford



Regular Type Stop Motion

Knitters everywhere are getting this protection—

How about you? Can you afford to be without the practical advantages that other mills are obtaining with Crawford Stop Motions. These modern devices form the first line defence against imperfections in knit cloth. When a bunch, knot or drag pops up in the yarn, the machine is immediately stopped.

Perhaps you find it necessary to resort to frequent pressoffs — Crawford Stop Motions are the remedy. They also reduce *waste*, broken needles and seconds. The regular and E.O. Type Stop Motions are attachable to all makes of circular knitting machines. The E.O. Type is doubly efficient in that it stops the machine when the yarn breaks out at the carrier.

Do *you* want this protection?

THE CRAWFORD MFG. CO.
New Brunswick, N. J.

New Machinery & Processes—Continued

(*Continued from page* 92)

stripper motor are allowed to run until the doffer has made one complete revolution, when it is thoroughly stripped. This method of stripping eliminates entirely the handling of any belts or ropes.

Vacuum Method Combined

Fig. 4 shows a Saco-Lowell card using the vacuum method combined with the brush method of stripping. The stripper brush is mounted permanently as part of the card and is driven by a motor direct-connected to the stripper brush shaft. The motor and stripper brush are part of the equipment of each card. Each motor is controlled by a snap switch mounted on the side of the main motor switch and connected by a flexible lead with plug and receptacle. The motor thus connected runs the stripper brush at full speed of the motor or about 1160 R.P.M. At this speed the centrifugal force throws the cotton off from the brush to be carried away by suction through the pipes connected to the hood on each card. In stripping by this method the operator simply starts the stripper brush motor while the card is in normal operation and moves the brush over against the main cylinder or doffer by the lever handle attached to the stripper brush. The card meanwhile continues in operation. This method of stripping is very quickly accomplished and all dust and lint stripped is carried away by vacuum system to waste tank.

Fig. 5 shows a card room containing 63 Howard & Bullough cards each driven by an individual motor mounted on a bracket, which together with the disc driven gear and gear guards are adapted to harmonize with the pleasing design of the whole machine. The supporting bracket for the motor is notably rugged, well supported and machined to fit the card side to which it is securely bolted. The gear guard completely covers the teeth of both the gear and the pinion. This arrangement, together with the disc gear, fulfills all safety requirements.

The motor is a 1¼ H.P., 1160 R.P.M. Westinghouse, of the enclosed type, driven by a micarta pinion on the motor shaft to a cast iron cut gear on the cylinder shaft. The motor starter is a Westinghouse WK-21 switch mounted on a cast iron hollow pedestal on the floor.

The main electric wiring for this installation passes under the floor. Branches for each card are brought up through the floor, then through the hollow pedestal directly into the switch, then through flexible steel conduit to the motor. The short length of flexible conduit shown is the only section of wiring exposed.

The method of stripping on these cards is by the vacuum system whereby the suction nozzle is passed across the face of the cylinders to be cleaned. It is necessary, however, occasionally to use the brush method of stripping to thoroughly clean the card clothing. This is done with the portable brush generally used, except that it is driven direct from the motor which drives the card. For this purpose a short shaft extension shown on the outside of the motor is provided to take a double sheave for stripping.

Static electricity is lessened by the use of individual card drive. The presence of an alternating current field set up by the motor close to the card frame, aided by the fact that moisture from the humidifiers is permitted to settle down upon the stock being carded, has a beneficial effect upon static electricity produced by the carding of the stock.

Closer card setting is also possible with the individual motor drive. In setting of the flats, especially where this is very close, the action of the belt drive from overhead is to pull upward at an angle; and this has a tendency to roll the cylinder shaft up in its bearing at each starting of the card an amount equal to the wear in the bearing, and thus bring the card clothing points on the cylinder into contact with those of the flats. On the other hand, with the chain or gear drive, if placed on the delivery side of the card, the resultant pull on the cylinder shaft is downward in its bearing. This means that whatever setting is made of the flats there will be no disturbance of this when the motor starts the card. In this case the setting can be made as close as desired without danger to the card clothing.

RECENT TEXTILE PATENTS

Bobbin. 1,525,648. E. J. Hubbard, Berwyn, Ill.

Braiding machine winder. 1,526,086. A. Petersen, Winthrop, Mass.

Builder motion. 1,526,247. Thomas W. Simmons, Greenville, S. C.

Cotton and similar materials, Pneumatic conveyor for. 1,525,760. J. L. Rushton, Bolton, England.

Cotton fabric. 1,526,201. A Bosshard, Arbon, Switzerland.

Cotton huller and cleaner. 1,526,144. W. L. Hancock, Dallas, Tex.

Cotton picker. 1,525,670. W. A. SoRelle, Clarendon, Tex.

Cotton, wool and the like, Machine for combing. 1,525,544. J. Horridge, Bolton, England.

Dyeing cellulose esters. 1,525,142. F. Gunther, Ludwigshafen, Germany.

Knitting machine. 1,525,610. C. C. Krieble, Norristown, Pa.

Knitting machines, Striping mechanism for. 1,525,607. K. Howie, Norristown, and W. O. Taylor, Limerick, Pa.

Loom, Automatic replenishing. 1,525,773. W. Flett, Wakefield, Mass.

Looms, Spool frame for pile fabric. 1,525,811. H. Hughes and H. Mason, Saxonville, Mass.

Shuttle changing mechanism. 1,525,774. W. Flett, Wakefield, Mass.

Shuttles, Take-up and guide for. 1,525,237. J. Rush, Norwich, Conn.

Spinning spindle. 1,526,157. M. Lavigne, Worcester, Mass.

Twister ring. 1,526,225. W. A. Kosken, New York.

Winding and reeling device. 1,525,476. W. Vorderwinkler, Roselle, N. J.

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The burning of the small sizes of anthracite produces heat, power and steam in abundance —but no smoke. High heat-producing energy is obtainable with anthracite without loss in the various processing departments by smoke.

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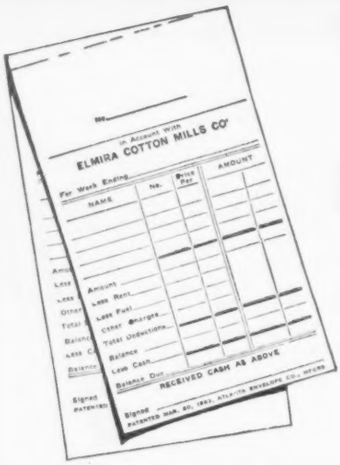

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No advance in cost.

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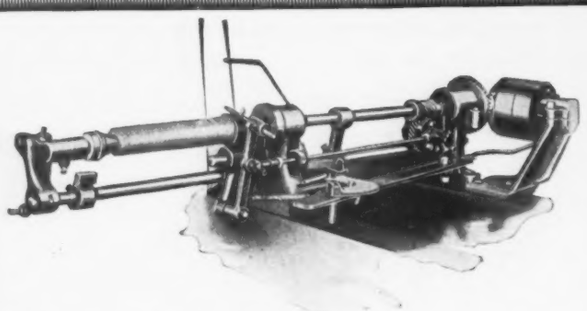

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HENRY L. SCOTT & CO.
PROVIDENCE, R. I.

COTTON GOODS MARKETS

Fall Ginghams Will Sell at 1c Advance

Trade Is Confident that Higher Prices Will Not Check Expanding Volume

The advance of 1c. a yard on all ginghams for fall by the largest manufacturer occupied the center of the stage this week. The naming of fall prices came earlier than had been expected by many in the market, who had thought that nothing would be done until the latter part of this month. The advance is considered slight in the selling market, and there is little question that it will be so considered by buyers as a class.

From a competitive standpoint the new gingham prices are considered cheap. It is pointed out that on the basis of present raw material quotations they are just as cheap as were the spring prices when the latter were originally made. Advances averaging about ½c. a yard on a number of spring lines during recent weeks have prepared the way for the general advance that will be made on fall goods.

Just as these preliminary mark-ups have failed to retard the swelling volume of business, it is confidently believed that the higher price for fall will not in any way check the rapid recovery of ginghams.

Higher Prices Coming?

While prices on all lines except the Amoskeag have still to be announced officially as this is written there is little question that all mills, North and South, will follow the lead of the big company. It is general expectation in the local market that jobbers and cutters will operate freely and quickly at the new prices.

Mill statements for 1924 made public during the last month or so have given ample testimony to the fact that manufacturers have not been calling upon their imaginations in talking about the money that was lost last year, and every buyer in the country knows that the new prices do not begin to allow for a fair profit margin for mills.

With every indication pointing to a constantly expanding consumer demand for ginghams, and with present production, as adjusted, none too large to take care of this demand properly, buyers apparently have every reason for getting aboard now. It is considered more than likely that, should cotton do no more than hold its own, the quantity of fall gingham business taken on the basis made this week will be limited, and that further advances may be looked for within the next two months.

Finished Goods Moving

Business in staple finished goods generally has received a real impetus from the jump in cotton, and it is understood that the volume put through this week on many kinds of merchandise aggregated large. Gray goods have not been especially active; print cloth prices have followed the upward march of the raw material, and there is a good inquiry for nearby deliveries which continue to bring premiums.

Sheetings, while somewhat more firmly held, were quotably unchanged at mid-week, which means that they are still farther out of proportion with raw cotton. It is considered inevitable now that there will be a considerable increase in interest in brown sheetings during the next few weeks, and that higher prices can be put into effect in the immediate future.

Comparative Quotations

	March 4	Feb. 25	March 5, 1924
Spot Cotton, New York	26.05c.	25.35c.	28.40c.
Print Cloths:			
27- in., 64x60, 7.60 yd	6⅞–7c.	6⅞c.	6¾c.
38½-in., 64x60, 5.35 yd	9½–9¾c.	9⅜–9⅝c.	9c.
39- in., 68x72, 4.75 yd	11¼–11⅝c.	11⅛–11½c.	10⅞–11c.
39- in., 72x76, 4.25 yd	12½–12¾c.	12⅜–12½c.	12¼c.
39- in., 80x80, 4.00 yd	13¾–14c.	13½–13¾c.	13¾c.
Brown Sheetings:			
36- in., 56x60, 4 yd	10⅞c.	10⅞c.	12–12¼c.
36- in., 48x48, 3 yd	13⅝c.	13⅝c.	14¼–14⅜c.
37- in., 48x48, 4 yd	10⅜c.	10⅜c.	10¾–10⅞c.
Pajama Checks:			
36½-in., 72x80, 4.70 yd	11c.	10¾c.	11¾c.
36½-in., 64x60, 5.75 yd	9c.	8⅞c.	9¾c.
Drills, 37-in., 3 yd	13½c.	13½c.	14¼c.
Denims, 2.20s	19c.	19c.	*24½c.
Tickings, 8 oz	24½c.	24½c.	*27¾–28c.
Standard Prints	9½c.	9½c.	10¾c.
Eastern staple ginghams, 27-in.	11½c.	10½c.	12½c.

*Nominal.

Cotton Goods Trade Notes

The Amoskeag Mfg. Co., Jarvis, Loomis & Dunbar, selling agents, has made prices for fall on ginghams which are 1c higher than those named for spring. The advance applies to 19,000 Range, Utility, A F C and staple ginghams. Deliveries May to October.

A rush of orders which have been hanging fire for some time is understood to have been placed early this week as a result of the advance in cotton. Denims sold freely on a basis of 19c for 2.20s, and it is understood that a few lines have been withdrawn, the prospect being for an advance within the next few weeks.

It is pointed out that stocks of brown sheetings are going through exactly the same sort of cleaning-up process that was the case with print cloths last fall, and that this process should be hastened during the next few weeks.

One of the happiest circumstances connected with the new ginham prices for fall is that they offer no opportunity for a renewal of the feud which resulted in the 3c cut in spring prices last fall. Competitive lines made in the South have been selling at exactly the same price, for spot goods, as the big number of the Amoskeag is now quoted for fall.

The representative of an important combed yarn mill declares that this week witnessed the first sizable business he has put through since December.

The advance in cotton, which is regarded by many as more than a temporary upturn, may not be considered an unmitigated blessing. For the immediate future its effect should be the stimulation of business on many classes of merchandise — business which has been held up in the fear that the staple would go below 23c by the end of April.

This is no longer considered likely. Experienced merchants feel—and regret—that the advance has not yet reached its high point and that 28 or 30c for middlings may well be reached before the first six months of the year are over. Legitimate complaints and propaganda regarding the quality of last year's staple are growing in volume, and it looks very much as if the way is being prepared for another period of speculative fluctuations later on in the year.

Which, of course, is to be deplored. Over the long future there can be no question that higher than 25c for middlings will have a restrictive influence on the quantity of staple goods that can be merchandised. All in the selling market hope that the outlook for the raw material as it is now seen will not be realized.

It is announced the firm of Coudert & Talcott, cotton dress goods, etc., Philadelphia, was dissolved as of Mar. 1. John Talcott will continue business on his own account having offices at 948 Drexel Bldg., acting as selling agent for the Turner-Halsey Co., New York. N. J. Coudert will after this date operate as a general broker in cotton goods, being located in room 38 Drexel Bldg., Philadelphia.

MANCHESTER NEWS BY CABLE

Manchester, Eng., March 4 (Special Cable to TEXTILE WORLD).—Traders are slow in responding to higher prices as result of dearer cotton, anticipating that if manufactured goods are purchased freely at current rates difficulties will be experienced in effecting satisfactory clearances in outlets abroad.

Increased cloth inquiry for India and more sales in bleaching and printing styles, but sized goods are dull. Fancies and white shirtings in steady request for China. Minor outlets quiet. Home trade more active. Numerous manufacturers deriving better support from this section than from shipping.

Index number for the week is 222.

OBITUARY

Ernest Haigh

Ernest Haigh, superintendent of the Clifton Yarn Mills, Inc., Clifton Heights, Pa., died in a hotel room at Providence, R. I., of cerebral hemorrhage, Feb. 23, at the age of 55. Mr. Haigh whose home is in Lansdowne, a suburb of Philadelphia, was on a business trip to New England when taken with the illness which resulted in his death. He was accompanied on this trip by his son, Alfred Haigh.

Sheridan Campbell

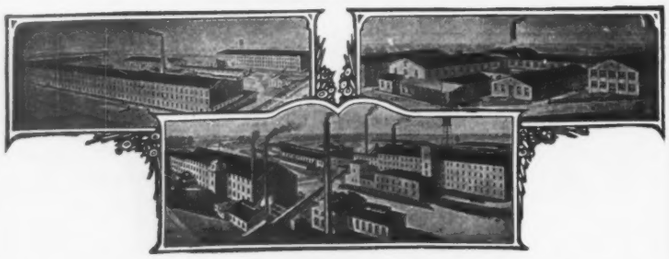
Sheridan Campbell, widely known in the Ontario silk trade, died in Toronto last week. Mr. Campbell was born in Pipton, Mass., a twin son of the late Capt. John Alexander Campbell. Thirty-six years ago he went to Toronto from Brampton, Ontario, to open the Canadian branch of the Corticelli Silk Co. He remained with this firm for more than 25 years severing his connection with it at the time of its merger with the Belding-Paul Co. Four years ago Mr. Campbell was forced to retire from business owing to ill health.

Amedee Dubuc

Amedee Dubuc, superintendent of the weaving department of the Harmony Mills, Cohoes, N. Y., died in that city after a several weeks' illness. Before entering the employ of the Harmony Mills several years ago, he had resided in New Hampshire, where he served as a State Senator for four years.

The Kent Manufacturing Co.

(Established 1843)



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RAT DOOM

WOOL GOODS MARKETS

Open Fall Women's Fabrics Next Week

By Close of Month Most Lines Will Be on Market—Talk Over Production of Flannels

Next week will witness the start of the fall, 1925, season by one of the largest factors in the women's wear trade. The opening of lines by this concern is nearly two weeks later than it was a year ago and about a month later than in years previous to 1924. The offering has been delayed partly for the purpose of developing an appetite on the part of the buying fraternity, and partly to present fall styles so late in the spring season that they cannot be presented to the consumer in that season instead of in the fall season for which the mill stylers have designed them. The reception of the opening will be interesting to those who have not yet opened, for the reason that trade has been dull lately to a point which has disturbed many sellers. The success of a leading seller will go far toward reviving the spirits of the rest of the market.

During the remaining weeks of the month many lines for the fall season will be placed before buyers of dress fabrics. Those who are in touch with the situation expect that Forstmann & Huffmann Co., the Botany Worsted Mills, and others with similar high grade products will show their new fall goods during the last week of the month. It is believed that the outstanding fabrics for fall will be those of twill construction with a soft lightly napped surface, including such goods as cashmere coatings, Kasha-like goods and various forms of flannels. Concentration by mills on such lines as flannels has been flooding the market with goods to such an extent that there is the cry of overproduction, which is valuable as a warning.

Women's Wear Trade Notes

The American Woolen Co. will open lines of fabrics for the dress, suit, coat and separate skirt trades on Tuesday, Mar. 10 for the fall, 1925 season.

The expectations on a revival of interest in spring goods have been disappointed lately, as inquiry has been irregular and scattered.

Reports from the silk trade for the last few weeks have been to the effect that a large business is being done. These are now being interpreted in women's wear circles on the woolen and worsted end to the effect that an unexpectedly large portion of spring business in dresses is going to silk men this season.

There is said to be a good market for silk and wool goods. Much of these are now coming from silk mills, but the opportunity seems to exist for the worsted mill to fill out its line by looking into the possibility of making such goods.

Preparing Sample Ranges

(*Continued from page 99*)

lowing procedure is advisable: Secure a color card containing a great variety of colors, and if duplicates of the colors wanted can be found, the card samples will serve as guides for the dyer.

Having thus secured the colors desired, the next step is to ascertain the percentage of each color to use. At the outset this is somewhat a matter of guesswork. But after the first guess, followed by conclusions drawn from the result, it will require but a few trials before a suitable match should be secured. In making the trials by the use of the grain scales, great care should be taken to secure an exact balance, as a small error at this point means quite a material error in making up larger quantities.

Weighing Sample Mixtures

With the grain weights graduated from ½ grain to 20 grains, the latter should represent 100% of the test. In other words, the trial sample should weigh 20 grains. This amount can be easily mixed and handled by hand. Suppose one has a mixture that in his judgment contains percentages as follows: 50 black, 30 white, 15 lavender, and 5 light blue. It would require 10, 6, 3 and 1 grains, respectively, of the four colors. These should not be weighed separately. To secure accuracy they should be weighed in the following manner:

When the 10 grains of black is weighed, do not remove it from the scales, but add the other colors by using the required weights. Weigh the smaller quantities last. Now with the hand cards mix the colors thoroughly, and give a good scouring and drying. Before making comparisons, either card the prepared mixture again or wash the original one, so that the two will be in like condition. If the test fails to give an exact match, it should serve as a guide to determine what changes to make, and thus lead to satisfactory results.

Men's Wear Trends Have Now Been Set

Buyers Want Colors, Particularly Blues—Cheviots Are Popular—Success Has Been Spotty

The week now closing has seen the winding up of the openings of men's wear fabrics for the fall, 1925, season. Buyers are still circulating through the market, but it is doubtful whether in the immediate future there will be any marked change in volume or direction of operations. The lines which have shown unusual colorings have been fairly well received, if prices also have been right. Various shades of blue have been popular, despite the fact that they have had the call with the consumer for the last two seasons, and fawn had been talked about as the new thing this season. Unwillingness has been found in a few quarters to take responsibility for the fastness of some of the colors used in the new fall lines, but this does not seem to be upsetting buyers. Many of the new colors are novel to the mills which are now using them, but the fact that a full gamut of delicate shades have been in use in the women's wear trade for several seasons without noteworthy complaint, makes it likely that this experience will be repeated in men's wear circles.

The cheviot has developed as the outstandingly new fabric this season, though, through the efforts of certain houses, they had been developing toward this position during the last few months. Any further progress toward other diagonal effects will probably not be seen until later in the season or next season, for it is not yet apparent that buyers' interest has diverged to anything else of similar nature. In fact the cheviot has yet to make its general appearance on the backs of consumers and until it has been tried out it is impossible and unwise to use it as a foundation to move on to something else.

Certain houses in the trade have been particularly successful in a difficult season either by naming bargain prices or by giving the buyer just what he was after. From their viewpoint, pre-opening apprehensions were unfounded. But there are other houses which have not been so successful who realize that considerable work lies ahead to establish their lines on a broad basis. Most of them have been able to get sample piece orders and their future rests on the results which the clothier has when he offers his fall lines to the retailer in April.

There has been a light movement of goods for the current spring, stimulated at first by the unseasonably warm weather which held sway for a few days last week. Filling-in orders will probaby continue to come from the cutting trade during the next two months as their hand-to-mouth policy has left a number of them with scant supplies.

Men's Wear Trade Notes

Princeton Worsted Mills have opened for fall their lines of fancy worsted cheviots at $3.37½ and $3.45, net, fancy mixtures and skein dyes at $4.17½ to $5.10, net, and complete lines of staples at $2.87½ to $5.37½, net. Worsted overcoatings at $4 to $6.75 net are included in the showing.

Freneau-Nelson Co. have opened for fall the following: Stanley, 30-in., range 275, at 30½c; ranges 270, 271, 272 and 273, at 31½c; Crescent, 30-in. range 16, 42½c; Centurion, 30-in., 58c; Thrift tweeds, 30-in., 36½c, for the boys' clothing trade; Menlo Larchmont, 36-in. cheviots, 32½c; Kensington, 36-in. twill, 33½c; Hammertown, 36-in., fancy 48½c, for the knee pants trade.

T. Guerin & Co., Inc. have opened their 8400 range of Hillsmont Mill cassimere suitings at $3.10 to $3.22½, net. They are also showing their 8300 range of Hillsmont suitings at $2.25 to $2.30 net.

Edward D. Jones & Co., Inc. have opened, for fall Runnymede fabrics, including overcoatings from $5.92½ to $6.37½; topcoatings at $3.00 and cassimeres at $2.30 to $2.40.

Alfred C. Gaunt & Co. have opened lines of worsted cheviots in mixtures and skein dyes at $2.87½, net; two lines of French backs, worsted-warp and wool-filled, and a line of fancy worsteds at $2 to $4.25; also a line of topcoatings at $2.50 to $2.47½, net.

Kent Mfg. Co. have opened their line of wool suitings, at $2.05 to $2.95 net.

Dunn Worsted Mills, Battey, Trull & Co., selling agents have opened for fall lines of piece dyes, fancy mixtures and twists both clear-finished and unfinished, at $4 regular base, to $5.50 regular base. Serges and unfinished worsteds range from $4 regular base, to $5.27½ regular base.

South Bend Woolen Mills, Inc. F. Austin Clapp, selling agent, have opened a line of topcoatings at $2, net.

(*Continued on page 157*)

BRADFORD NEWS BY CABLE

Bradford, Eng., March 4 (Special Cable to TEXTILE WORLD).—Weekly Wool Chart index for February is 202, compared with 221 for January and 194 a year ago. Piece goods section shows no change. Buyers still lack confidence. Scotch tweeds and better class of Huddersfield woolens are most in request, particularly for export.

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AUDITS — SYSTEMS

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BOSTON	COLUMBUS	PITTSBURGH	INDIANAPOLIS	NEW ORLEANS
PROVIDENCE	YOUNGSTOWN	WHEELING	ST. LOUIS	DALLAS
PHILADELPHIA	AKRON	ERIE	KANSAS CITY	HOUSTON
BALTIMORE	CANTON	CHICAGO	OMAHA	FORT WORTH
WASHINGTON	DAYTON	MILWAUKEE	DENVER	SAN ANTONIO
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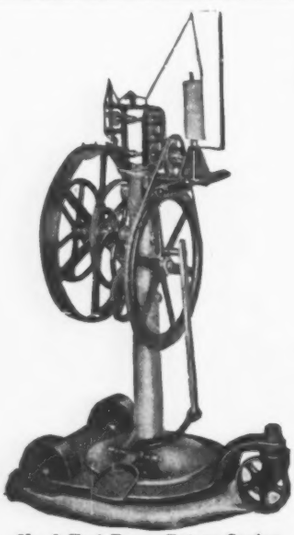

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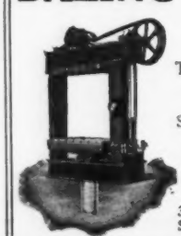

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FINANCIAL MARKETS

Better Demand For Textile Stocks

Investors Commencing to Forget Poor Results of Last Year and to Anticipate Improvement

BOSTON, March 4.—Although investment buying of textile shares continues of comparatively small volume and lacks snap, it is a fact that many regular investors are showing more interest in high grade textiles and that a little more interest is manifested by outside investors. Buying is of a decidedly discriminating character, but it is a notable fact that shares listed on the local exchange have been well supported recently and are at least holding their own, and that the same can be said by high grade unlisted textiles. It is to be noted, however, that quite a number of shares once listed in the gilt edge class have been eliminated therefrom, and that gradually a new list of high grades stocks is being formulated.

Among the unlisted stocks that are in active demand and that show advances are Nashawena, Plymouth Cordage, Ludlow Associates and Bigelow-Hartford. Among the unlisted shares that have shown marked declines recently are Tremont & Suffolk Mills that has been offered as low as 68, Hill Mfg. Co. that is nominally quoted at 48 to 50 and that sold as low as 41¼ last week, Massachusetts that has continued its decline and sold today at 112¼, and Merrimac preferred that dropped 4¼ points to 75¼. Of local listed stocks American Woolen preferred has advanced ⅞ points to 89⅞ and sold as high as 90½ during the week; the common has fluctuated within a range of 49¾ and 51⅝ and closed today at 50¼ or practically unchanged for the week. Amoskeag common and preferred are unchanged at 70 and 74 respectively, and Pacific has advanced ¼ point to 70¼. Despite the poor showing made by New England Southern Mills for last year, the preferred has advanced 2 points to 43 and the common is up ⅜ points to 10½.

Hill Mfg. Co. Affairs

At the annual meeting of the Hill Mfg. Co., cotton goods, Lewiston, Me., Charles Wolcott, treasurer of the Newmarket (N. H.) Mfg. Co., was elected treasurer to succeed William F. Moore, resigned, and all of the other officers and directors were re-elected, with the exception of H. B. Estes, who resigned two weeks ago on account of ill health. The company showed an operating loss for the year of $725,768, which was reduced to $558,322 by income of $167,445 received from the sale of water rights. New financing will be necessary to rehabilitate the company and give it adequate working capital and it is reported that six of the directors have agreed to take a total of $440,000 of such new securities. Mr. Walcott, the new treasurer, acknowledged that it was a mistake to have continued to operate the mills substantially at capacity during the summer of 1924, as because of unfavorable market conditions the loss would have been smaller with the plant shut down. The company's operating statement for the 12 months ended December 27 last, with cotton inventoried at 25c, is as follows:

	1924
Sales	$2,457,735
Inventory	(dr)34,893
Total	2,422,842
Cost of manufacture	3,069,656
Depreciation	78,954
Loss	725,768
Other income	167,445
Total loss	558,322

The company's balance sheet for the last two years compares as follows:

ASSETS	Dec. 31, 1924	Dec. 31, 1923
Plant	$2,934,930	$2,689,257
Invent	1,149,100	1,711,657
Cash	275,283	176,257
Accts rec	349,359	497,103
Invest	158,900	233,900
Def chgs	65,344	89,986
Dep with ins. co.	30,000	.....
Sub co stock	75,000	.....
Total	$5,037,916	$5,398,160
LIABILITIES		
Cap stock	$2,000,000	$1,500,000
Accts & not pay	2,109,460	1,604,981
Reserve, etc.	348,100	383,792
Def liab	130,259	246,359
Surplus	450,097	1,663,028
Total	$5,037,916	$5,398,160

Tremont and Suffolk Loss

The balance sheet of the Tremont and Suffolk Mills, cotton goods, Lowell, Mass., for the year ended Dec. 27, 1924, showed a loss for the year on sales of $3,897,300 of $1,601,306, and a decrease in surplus of $4,405,160. Surplus now stands at $1,286,627 as compared with $5,692,788 on Dec. 31, 1923. This decrease, in addition to the losses on the year's business, is accounted for by an adjustment in plant value of $2,341,004 and an increase in reserves of $462,850. Of accounts receivable standing on the books December 27 and aggregating $801,163, a total of $376,904 are current and $424,259 are past due; a reserve of $300,000 has been set up against the latter item and it is believed that the balance can be recovered. During the year the plant account was placed on a cost less depreciation basis; on Dec. 27 plant was carried at $4,489,006 less depreciation of $2,623,135, leaving a net value of $1,865,870. The plant averaged 26% of operating capacity during 1924 and is now said to be running at about 50% of capacity. The balance sheet as of Dec. 27, compares as follows with that of Dec. 31, 1923:

ASSETS	Dec. 27, 1924	Dec. 31, 1923
Plant	$1,865,870	$4,437,574
Inventory	1,795,651	2,470,885
Cash & accts. recv.	542,302	1,211,069
Liberty bonds	.....	637,233
Accrued interest	.....	14,404
Prepaid insurance	24,622	.....
Total	4,228,445	8,771,163
LIABILITIES		
Capital stock	2,000,000	2,000,000
Accts pay	428,679	965,719
Resv taxes	.....	93,016
Resv contlng	600,000	.....
Taxes accrued (city)	.....	.....
Commissions accrued	12,139	19,630
Surplus	1,287,627	5,692,788
Total	4,228,445	8,771,153

*After depreciation.

N. E. Southern Mills Shows Loss

The New England Southern Mills, operating cotton mills in Lowell, Mass., Hogansville, Ga., Tucapau, S. C., and controlling 81% of the stock of Cosmos Imperial Mills, Ltd., in Canada, report the net operating loss for the year ended Dec. 31, 1924 of $537,953, after all interest charges, taxes and depreciation. The income account for the two years compare as follows:

	1924	1923
Gross sales	$15,388,471	$12,280,776
Selling expenses	.....	779,633
Income from sales	.....	11,501,143
Cost of goods sold	14,810,403	10,537,919
Reserves and taxes	5,906	51,731
Depreciation and interest	1,271,371	630,468
Operating profit	*499,204	281,034
Profit accrd on min stk not owned by company	38,749	68,144
Net operating profit	*537,953	212,890

* Loss.

In a statement to stockholders at

MILL STATEMENTS

Name and address of company	Line of business	Fiscal year Date	Fiscal year Year	Assets: Cash and debts receivable	Raw materials mdse., etc.	Total quick assets	Real estate, buildings and machinery	Miscellaneous Amount	Miscellaneous Description	Total	Liabilities: Accounts payable, floating and funded debt	Capital stock	Surplus, profit and loss, etc.
Massachusetts Cotton Mills, Lowell, Mass.	Cotton	Dec. 29, 1924		$3,253,719	$4,988,464	$8,242,183	$5,819,666	.....	.....	$14,061,849	$3,700,357	$5,000,000	$5,361,492
		Dec. 27, 1923		4,573,139	5,361,227	9,934,366	5,962,230	.....	.....	15,896,596	3,853,518	5,000,000	7,043,078
Whitman Mills, New Bedford, Mass.	Cotton	Dec. 31, 1924		521,177	2,046,568	2,567,745	4,070,899	$71,733	Miscellaneous	6,710,377	1,298,392	3,000,000	2,411,985
		Dec. 31, 1923		497,419	2,922,692	3,420,111	3,942,865	90,079	Miscellaneous	7,453,055	1,110,000	3,000,000	3,343,055
Laurel Lake Mills, Fall River, Mass.	Cotton	Jan. 27, 1925		59,992	166,621	226,613	908,652	23,308	Miscellaneous	1,158,573	216,995	900,000	41,578
		Jan. 22, 1924		46,634	338,446	385,080	906,767	.....	.....	1,291,847	386,653	900,000	5,194
Mayo Woolen Mills, Millbury, Mass.	Wool	Aug. 31, 1924		57,790	624,083	681,873	549,835	546,769	Miscellaneous	1,778,477	848,399	500,000	430,078
		Aug. 31, 1923		56,971	479,228	536,199	475,752	483,776	Miscellaneous	1,495,727	647,227	500,000	348,500
Cabot Mfg. Co., Brunswick, Maine	Cotton	Dec. 27, 1924		.....	.....	1,185,468	2,456,200	21,277	Miscellaneous	3,662,945	741,734	2,000,000	921,211
		Dec. 27, 1923		554,050	903,204	1,457,254	2,531,442	21,410	Miscellaneous	4,009,906	932,796	2,000,000	1,077,110
Nyanza Mills, Woonsocket, R. I.	Cotton	Dec. 27, 1924		.....	.....	945,109	1,401,435	103,359	Miscellaneous	2,449,903	655,550	2,100,000	305,647
		Dec. 27, 1923		180,487	740,244	740,244	2,623,292	110,505	Miscellaneous	4,164,995	923,198	2,100,000	1,141,797
Fairhaven Mills, New Bedford, Mass.	Cotton	Dec. 31, 1924		521,223	591,151	1,112,377	3,899,136	796,500	Miscellaneous	5,808,013	1,475,000	3,500,000	833,013
		Dec. 31, 1923		661,520	1,351,282	2,012,802	4,870,468	100,200	Miscellaneous	6,983,470	1,755,000	3,500,000	1,728,470
City Mfg. Co., New Bedford, Mass.	Cotton	Dec. 31, 1924		752,874	611,774	1,364,648	1,298,507	11,800	Miscellaneous	2,674,955	122,502	750,000	1,802,453
		Dec. 31, 1923		746,773	660,528	1,407,301	1,295,870	11,800	Miscellaneous	2,714,971	226,186	750,000	1,738,785
Booth Mills, Lowell, Mass.	Cotton	Dec. 27, 1924		2,151,080	698,655	2,849,735	2,551,234	64,880	Miscellaneous	5,465,849	285,760	1,250,000	3,930,089
		Dec. 29, 1923		1,931,056	728,608	2,659,664	2,549,089	73,224	Miscellaneous	5,281,977	193,626	1,250,000	3,838,351
Bigelow-Hartford Carpet Co., Clinton, Mass.	Wool	Dec. 31, 1924		4,192,622	6,966,909	11,159,531	10,578,120	615,345	Miscellaneous	22,353,996	500,883	20,250,697	1,601,416
		Dec. 31, 1923		5,697,090	6,012,795	11,700,885	9,335,916	3,087,853	Miscellaneous	24,133,654	1,053,262	20,739,050	2,341,332
Pilgrim Mills, Fall River, Mass.	Cotton	Dec. 31, 1924		141,558	549,469	691,078	1,326,118	121,112	Miscellaneous	2,138,258	179,509	1,200,000	758,749
		Dec. 31, 1923		155,088	391,033	546,121	1,305,795	492,777	Miscellaneous	2,344,693	40,525	1,050,000	1,254,168

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Financial Markets—Continued

the annual meeting of New England Southern Mills, S. Harold Greene, president, said in part: "A year ago we had under way the moving of 35,000 spinning spindles and 15,000 twister spindles from Lowell, LeRoy and Newburyport plants to Hogansville, Ga. This operation is completed and forms a tire fabric unit incorporated as Stark Mill which is in full time operation and profitably sold sometime ahead. At Tucapau, S. C., we have added 300 narrow looms for the manufacture of part linen crash toweling. In our statement a year ago we showed it was estimated that we would require, to complete these plans, $1,700,000. This has all been paid and the plants completed under the estimated budget. The plant at Lowell has installed wide looms for manufacture of high grade sheeting. It is now running full and sold for sometime ahead. For reasons of greater simplicity we have consolidated our two Canadian companies. The Cosmos Imperial Mills, Ltd. was formed. This company issued $1,000,000 20-year 6½% bonds, due 1944 and one class of stock of $2,000,000 par value. New England Southern Mills owns $1,620,800 of that stock, or 81%. The past year has brought about unusually poor conditions in the textile industry which has made it difficult for the company to get full advantage of its splendid plants manufacturing a very diversified product. The present year seems to offer better conditions in this field and the mills are at present operating at a profit after providing for usual depreciation."

Financial Notes

The Union Bank of Chicago and Daniel V. Harkin, its president, have been appointed co-receivers for the Daniel Boone Woolen Mills, Chicago, Ill. Edward J. Brundage has been appointed as receiver to conserve assets for the benefit of creditors. It is reported that new financing is being arranged to pay off the creditors and thus have the charges taken out of the Federal courts.

The Stirling Mills, woolen goods, Lowell, Mass., has declared a regular semi-annual dividend of 10% and a cash extra of 40% both of which were payable March 3. This is a 14-set mill making dress goods and Samuel Rindge of Parker, Wilder & Company, commission merchants, Boston, is treasurer.

The Artloom Corp., Philadelphia, Pa., has been incorporated under Pennsylvania laws with a capital of $3,000,000 of 7% cumulative preferred stock and 200,000 shares of common stock of no par value, to take over the plants and business of the Philadelphia Tapestry Mills, the Artloom Rug Mills and the Philadelphia Pile Fabric Mills. The issue of $3,000,000 of preferred stock was offered through Lehman Bros., New York Bankers, at $100 per share and accrued dividend and was largely oversubscribed. Net profits of the combined mills after taxes and other deductions averaged $1,284,036 for the last three years, which was a little more than six times the preferred dividend requirements, and equal to $5.37 on the common after preferred dividends. It is expected that dividends on the common will be started at an annual rate of $3 per share.

The financial statement of the Monarch Knitting Co., Dunnville, Ontario, shows a substantial loss on operations for the past year amounting to $52,224, after making full provision for all bad and doubtful debts and reserve for depreciation. This compares with net profits computed on a similar basis for the previous year of $114,887.

Boston Stock Auctions

The following sales of textile shares were made at Wednesday's auctions:

Shares	Mill	Par	Price	Change
2	Nashawena	100	124½	+8½
12	Merrimack pfd	100	75¼	−4¼
1	Massachusetts	100	112¼	−22¼
3	Bigelow Hartford pfd	100	103¾	+1¼
8	American Linen	100	40¾	−5¼
1	Thorndike Co.	1,000	402	−148
4	Plymouth Cordage	100	126½	+1½
25	Ipswich pfd	100	60¼@¾	−¾
40	U. S. Worsted com.	100	3⅛@¼	−3⅜@3⅞
7	Ludlow	100	167	+¾
1	Shaw Stocking	100	10	−10

104 total

Dividends Declared

Mill	Rate	Period	Stock	Payable to	Stock of
Ludlow	$2 50	Q	Comm.	March 2	Feb. 14
Lancaster	2½%	Q	Comm.	March 2	Feb. 25
West Point	$2	Q	Comm.	April 1	Mar. 16

New England Textile Stocks

(Quotations based upon last sales at Boston public auction and Boston Stock Exchange.)

	Latest Sale	Prev. Sale
American Woolen, pfd	89⅞	89
Amoskeag, com	70	70
Androscoggin	125	132
Appleton	720	760
Arlington	101⅜	104
Bates	233¼	233
Bigelow-Hartford, pfd	103¾	103½
Boott	135⅛	...
Edwards	115	110
Esmond, pfd	100⅛	93½
Everett	122¼	129
Farr Alpaca	177	174⅛
Great Falls	12	24½
Hamilton Woolen	86	95½
Hamilton Mfg	54	47½
Hill	41¼	104½
N. E. Southern, pfd	43	41
Ipswich, com	26½	25¼
Lawrence	63⅝	71⅝
Ludlow Associates	167	166¼
Lyman	142¼	145
Massachusetts	112¼	130¾
Merrimack	75¼	104½
Nashua Mfg. Co., com	72½	73¼
Naumkeag	203	201
Newmarket	140¼	141⅛
Pacific	70¼	70
Pepperell	127	135¼
Plymouth Cordage	126½	125
Tremont & Suffolk	108⅞	108½
York	112¾	103⅝

DIVIDEND NOTICE

TO THE STOCKHOLDERS OF DRAPER CORPORATION:

A dividend of $2.00 per share and an extra dividend of $2.00 per share has been declared, both of these dividends payable March 31, 1925, to stockholders of record at close of business March 7, 1925.

B. H. BRISTOW DRAPER,
Treasurer.

COTTON YARN MARKETS

Outlook in Yarns Not Encouraging

Prospects for March Not Indicative of Free Business—Spinners' Prices Higher

NEW YORK.—It is monotonous to hear the universal reply of "nothin' doin'" to all queries as to business in the yarn trade. Dealers admit that while February was a fair month in point of volume of sales March gives no evidence of even moderate activity. Inquiries are restricted to the lowest possible amount and those which are received evidence no desire on the part of the consumer to place forward business. The day-to-day sales made are for restricted quantities and for prompt shipment. It is apparent from requests for prompt delivery that the average buyer has little or no surplus upon which to draw. He is working with almost bare boards but apparently has no apprehension about the future, believing that when he needs more yarn he can get it. So far he has been correct in his surmise that apparently there is nothing in progress with the spinner which would cause him to change his mind. Reports of curtailment have been practically nothing more than reports and if answers to inquiries from the spinner are to be believed there is no occasion to shut down at least from the latter's standpoint.

Spinners' Prices Higher

As far as prices named by the spinner are concerned, the level of the market is up. Advances of practically a cent a pound are being asked in sympathy with higher cotton. On the basis that the spinner should receive 20c over the cost for 20s-2 the quotations demanded by the spinner are still below an equitable level. It is probably impossible for the spinner to buy cotton which would go into this yarn under 26½c and yet even the most optimistic spinner will admit that he is not able to get 46½c. Nevertheless spinners do claim that they have sold yarn in fair-sized lots at 44c and above and it looks as though the spinner figures would have to be accepted as the selling quotation for any yarn to be made. It would seem to be apparent that dealers have placed contracts for fair amounts of staple counts of this character at the spinners' own figure and it remains to be seen whether the prices which are asked the consumer will reflect these purchases. It is certain that there is not the variation between spinners' figures and those of the dealer that there was a few weeks ago. The fact that so few dealers

(*Continued on page* 135)

Cotton Yarn Quotations

(Corrected at close of business, March 4)

Spot Cotton Mar. 4, 1925—26.05c; March 4, 1924—28.40c.

Carded—(Average Quality)

Single Skeins and Tubes—(Warp Twist)

4s to 8s	.39	—40	20s	—	—43
10s	—	—40	24s	—	—45
12s	—	—41	26s	—	—46
14s	—	—41½	30s	.49	—49½
16s	—	—42	40s	—	—57

Two-Ply Skeins and Tubes

8s-2	.38½	—39	26s-2	—	—48
10s-2	—	—40	30s-2	.49	—50
12s-2	—	—41	36s-2	—	—55
14s-2	—	—42	40s-2	—	—57
16s-2	—	—43	40s-2 High breakage	—	—60
20s-2	—	—45	50s-2	—	—70
24s-2	.47	—47½			

Single Warps

10s	—	—41	24s	—	—46
12s	—	—42	26s	—	—47½
14s	—	—42½	30s	—	—49
16s	—	—43	40s	—	—57
20s	—	—44			

Two-Ply Warps

8s-2	.40½	—41	24s-2	—	—47
10s-2	—	—42	26s-2	—	—47½
12s-2	—	—43	30s-2	—	—50
14s-2	—	—43½	40s-2 ordinary	—	—58
16s-2	—	—44	50s-2	—	—70
20s-2	.44	—45			

8s-3 and 4-ply skeins and tubes; tinged, 36c.; white, 38c.

Hosiery Cones (Frame Spun)

8s	—	—40	22s	—	—43
10s	—	—40½	22s (silver)	—	—45
12s	.40½	—41	24s	.44	—45
14s	—	—41	26s	—	—46
16s	—	—41½	30s tying in	—	—46½
18s	—	—42	30s extra quality	—	—50
20s	—	—42½	40s	—	—58

Combed Peeler—(Average Quality)

Warps, Skeins and Cones

20s-2	.58	—60	50s-2	—	—80
30s-2	.64	—67	60s-2	—	—85
36s-2	.70	—73	70s-2	.95	—1 00
40s-2	.73	—75	80s-2	1 05	—1 12

Singles

12s	.46	—47	30s	.57	—59
14s	.47	—48	38s	.69	—71
16s	.48	—49	40s	.70	—72
18s	.49	—50	50s	.78	—80
20s	.50	—51	60s	.82	—83
24s	.53	—54	70s	.95	—1 00
28s	.55	—56	80s	1 03	—1 08

Mercerized Cones—(Combed, Ungassed)

26s-2	.78	—80	50s-2	.92	—95
30s-2	.80	—82	60s-2	1 00	—1 08
36s-2	.84	—86	70s-2	1 15	—1 20
40s-2	.87	—88	80s-2	1 25	—1 33
45s-2	.88	—90			

Peeler—(Super Quality)

Single Cones

	Carded		Combed			Carded		Combed	
10s	.41	—42	51	—53	26s	.46	—48	58	—60
14s	.42	—43	52	—54	30s	.48	—50	60	—65
16s	.42½	—43	53	—54	36s	.53	—55	68	—73
18s	.43	—44	54	—56	40s	.56	—58	72	—75
20s	.43½	—44	55	—56	50s	—	—	80	—85
24s	.45	—46	56	—58	60s	—	—	90	—95

Combed Cones, Warps and Tubes

20s-2	.62	—64	40s-2	.78	—80
24s-2	.64	—66	50s-2	.83	—85
28s-2	.66	—68	60s-2	.90	—95
30s-2	.68	—70	70s-2	1 00	—1 05
36s-2	.74	—76	80s-2	1 10	—1 15

Combed Reverse Twist Thread Yarns—Skeins, Tubes or Cones

2-, 3- and 4-ply

	Peeler Average		Best		Average	Sakelarides	Best	
24s	—	—76	80	—81	1 00—1 04	....	1 10—1 14	
30s	—	—78	82	—82	1 04—1 08	....	1 14—1 18	
36s	—	—80	85	—88	1 08—1 12	....	1 18—1 22	
40s	—	—85	90	—92	1 12—1 15	....	1 22—1 26	
45s	—	—90	95	—98	1 15—1 20	....	1 26—1 30	
50s	—	—95	—	—1 00	1 20—1 25	....	1 30—1 34	
60s	—	—1 00	—	—1 10	1 25—1 30	....	1 34—1 38	

Carded Yarns Quoted Higher

Quotations Advanced with Raw Cotton—Knitting Interest Larger than Weaving

PHILADELPHIA.—Carded yarn prices have strengthened, quotations being raised from a half to a cent both in knitting and weaving qualities. This was necessitated by rises in raw cotton primarily, as trading continues spotty and sales have been for comparatively small amounts for early deliveries. The exceptions to this have been in carded knitting in which several fair sized sales, one being for more than 100,000 lbs. for delivery from April to June have been reported at prices generally one cent above the best figures obtainable last week. Demand is running more to coarse counts than for numbers finer than 20s. Interest in carded weaving yarns has been less active and only small sales are noted. Combed knitting yarns have not been affected by the rise in raw cotton in most instances, as several large factors continue to offer numbers up to 30s at their former prices. Combed two-ply and mercerized yarns are less active and prices slightly softer.

Weaving Interest Smaller

Single warps have become firmer this week, quotations from spinners being raised from 42c the price recently quoted, to 44c while sales are being made in this market at 43c in comparison with those last week at 41½c, a larger demand for these yarns from tape mills being noted. Two-py warps are quoted a cent higher although trading in these yarns is not as active as heretofore, dress goods manufacturers stating they are unable to merchandise their goods in volume at the current prices asked for 20s and 30s-2 warps. Spinners are quoting 20s-2 warps at 45c to 46c for average quality and 51c to 52c for 30s-2, while sales are noted at 43½c for 20s-2 and 49c for 30s-2. The total was small in comparison with recent weeks and many dealers do not look for another spurt in buying until mill buyers have determined whether advances will hold.

Knitting yarns have been in better demand than weaving and several fair sized sales of carded qualities have been noted, going in most instances to underwear mills. Deliveries in these contracts have been specified for April until June and prices vary from 38½c basis 10s up to 40c, the figure at which one dealer sold 100,000 lbs. This yarn, however, was slightly better than average quality. Spinners are generally quoting ordinary grade at 40c to 41c basis 10s and few will

ABERFOYLE MANUFACTURING COMPANY

MERCERIZED YARNS

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Bankers Trust Building
PHILADELPHIA

James Building
CHATTANOOGA, TENN.

READING, PA.

Adams-Franklin Building
CHICAGO

Westaway Building
HAMILTON, CANADA

MILLS
CHESTER, PA.

Cotton Yarn Markets—Continued

MANCHESTER YARN CABLE

Manchester, Eng., March 4 (Special Cable to TEXTILE WORLD).—Spinners of yarns from American cotton are losing ground. Adequate advances cannot be obtained. Buying of Egyptian yarns is irregular.

now accept orders at less, one quoting 43c for 16s of average quality.

Double carded yarn is held at 50c to 51c for 30s with small lots for immediate shipment being the rule. Manufacturers using this yarn display little interest in contracts when quotations are above 48c for 30s. Single combed yarns are spotty and quotations vary over a wide range, depending upon whether the spinner has this yarn in stock or must spin it. Several factors continue to quote 18s as low as 49c while other spinners will not consider less than 52½c although they admit there is little business available at this price.

Print Goods Active

Cotton print fabrics are moving in larger volume and manufacturers are buying larger amounts of yarns going into such lines while cotton dress goods and men's wear mills, report a falling off in their orders as they were compelled to raise their goods prices in conformance with higher yarn quotations. They state this makes sufficient difference in their prices to retard goods buyers and they therefore are compelled to order smaller amounts of yarns. Knitters assert they are in a similar position and find it difficult to pass higher yarn prices on to buyers of their goods. For example, light-weight underwear manufacturers will only order in quantity when prices of 30s double carded are around the 48c level and when above this they buy from hand to mouth, stating this their price limit at which they can sell their goods in volume.

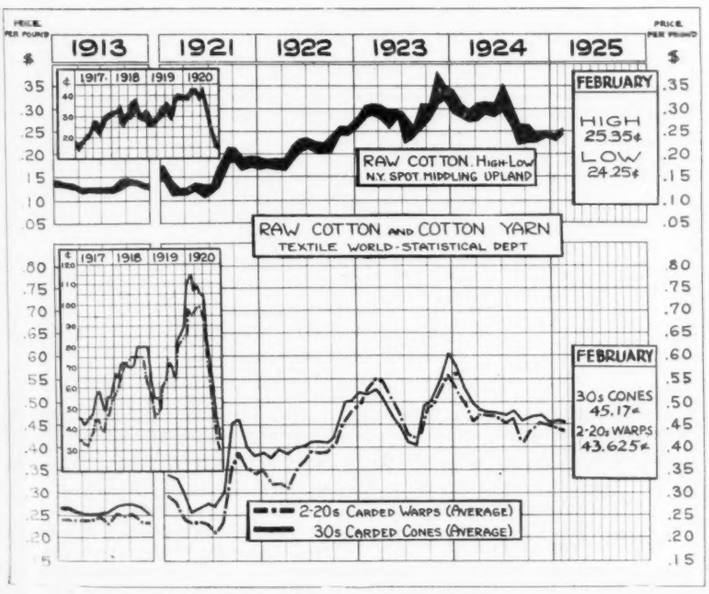
Combed Demand Smaller

Two-ply combed for mercerizing has been inactive while a freer movement to weavers is reported, one dealer selling 100,000 lbs. of 60s-2 lisle twist at 85c this week. On this count spinners are quoting from this figure up to 95c while mercerizers state they are able to buy 60s-2, of their description, at 82c or slightly lower for prompt shipment. Counts from 50s-2 to 80s-2 are strong even though demand has dropped off slightly, being due to continued strength in long staple cotton. Spinners state it is no longer a question what price to pay for this cotton but rather where it can be secured. Mercerized yarns are less active and prices are slightly easier, one factor quoting 60s-2 average grade at 97c while others continue to ask $1.00. Thread yarns are firmer and in fair request, 36s being held at 80c.

Cotton Forces Advances

Buyers Slow in Following Advance of Raw Material Prices

BOSTON.—Buyers of cotton yarns have had the upper hand in the market for so long that they are extremely slow to recognize the radical change which has taken place in the raw material market and are following the upward trend of yarn prices with extreme caution. Few buyers seem to appreciate that, although the advance in May futures from the low of last month is approximately 2c, the actual advance plus the rise in basis is from 2½ to 3c. However, the attitude of the majority of yarn buyers is based upon the feeling that the advance in raw cotton is only temporary and that, in addition to this, the ma-



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SUPER QUALITY
COTTON YARNS

COMBED PEELER, 24s to 80s, single and plies
COMBED SAKELARIDIS, 24s to 80s, single and plies. CONES, TUBES, SKEINS AND WARPS
Samples sent on request
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225 FIFTH AVENUE, NEW YORK
MILLS AT GASTONIA, N. C.

VAN COURT CARWITHEN

300 Chestnut Street, Philadelphia, Pa.
Sole Representative
SWIFT SPINNING MILLS
BRADLEY MFG. CO.
MUSCOGEE MFG. CO.
Whites, Stock, Dyed and Heathers
Cotton Yarns of Quality
All of COLUMBUS, GA.
FROM MILL DIRECT TO CONSUMER

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Spinners to Consumers

Carded and Combed Peeler single and ply Cones, Skeins, Warps, Tubes

For Knitting and Weaving Trade

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51 Leonard Street, NEW YORK

COTTON YARNS

PLUSH YARNS
HARTSELL SPINNING 12s to 16s
MASON SPINNING 20s to 30s

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Forrest Bldg., 119 S. Fourth St., Phila., Pa.

Superior Quality Knitting Yarns

Sole Representatives
Bladenboro Cotton Mills—Vass Cotton Mills
8s to 30s Extra Carded

GATE CITY COTTON MILLS

Manufacturers of
Superior Quality WHITE KNITTING YARN on CONES
We sell direct to Knitters and guarantee satisfaction
217 Trust Co. of Georgia Bldg., ATLANTA, GA.

COTTON PRODUCTS COMPANY

Bankers Trust Building Philadelphia, Pa.

High Grade Warps for MERCERIZING

Selling Agents for

The ELMORE COMPANY, Spindale, N. C.

SINGLE MERCERIZED YARNS

AUDREY SPINNING MILLS

INC.

Specializing in

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Single and Ply

COTTON YARNS

¶ Manufacturers of High-Grade Carded Weaving Yarns.

¶ Samples of wet and dry Twist Yarns, either Cones, Tubes or Skeins, submitted promptly upon request.

PAIGE, SCHOOLFIELD & CO., INC.

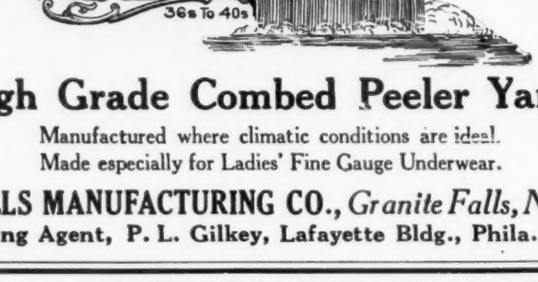
1 Madison Ave., New York

Sole Selling Agents

MANDEVILLE MILLS, CARROLLTON, GA.
AUDREY SPINNING MILLS, INC., WELDON, N. C.
WHITE HALL YARN MILLS, WHITE HALL, GA.
CHATHAM MFG. COMPANY, WINSTON SALEM, N. C.

FALLS MANUFACTURING COMPANY

MANUFACTURERS OF



High Grade Combed Peeler Yarns

Manufactured where climatic conditions are ideal.
Made especially for Ladies' Fine Gauge Underwear.

FALLS MANUFACTURING CO., *Granite Falls, N.C.*
Selling Agent, P. L. Gilkey, Lafayette Bldg., Phila., Pa.

THE JOHN F. TRAINOR COMPANY

COTTON YARNS

ANNOUNCE THAT THEY ARE NOW LOCATED AT

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(NATIONAL CITY BANK BUILDING)

TELEPHONE MURRAY HILL 0614-5

MONUMENT MILLS, Housatonic, Mass.

HIGH GRADE COTTON YARNS, White, Colors, Bleached On Beams, Jack Spools, Cones, Skeins, and Chain Warps

FAST-BLACKS & COLORS { For Woolen Mills a Specialty } **WE SELL DIRECT**

Cotton Yarn Markets—Continued

jority of spinners are so poorly covered with orders beyond April 1 that they are still at the mercy of buyers. It is true that the majority of carded and combed yarn spinners are not well covered with orders beyond April, but it is also true that the majority are in a position to demand and obtain replacement costs for their yarns and that replacement costs require an advance of at least 5% from recent minimum values of yarn.

Notwithstanding the increased strength imparted to the yarn market by the advance in raw cotton prices, the extreme advance in medium and coarse count carded yarns is not more than ½ to 1c, although asking prices are frequently up as much as 2c and in many instances spinners are refusing to quote for forward delivery. There has been a marked increase in demand on the basis of last week's prices, but where prices have been advanced more than ½ to 1c business is cut off. Temporarily, dealers who own yarns at old low prices and direct-selling spinners appear to be getting the bulk of the business, with few sales reported above a basis of 44c for 20s-2 ply warps, 49c for 30s-2 ply warps, 39c for 10s frame spun cones, 46c for 30s tying-in yarn and 49c for 30s of high grade. Single combed yarns have been advanced about 1c by the majority of spinners, but this does not warrant actual advances in yarns of super quality as these had been suffering recently from the competition of lower grade yarns. Combed weaving yarns are moving a little more freely, but excepting on low grades there is no quotable advance in prices. The report that combed yarn spinners of Gaston County, North Carolina, are to curtail production has stimulated some interest, but confirmation of actual curtailment has not yet been received in this market.

More Yarn Inquiry

Users Seem to Feel That Lower Prices Are Unlikely

CHICAGO.—Larger inquiries for cotton yarns have been received during the week from various manufacturers and from the insulated wire coverers in particular. With cotton remaining strong and advancing if anything, the manufacturers feel that lower prices will not prevail. Spinners intend to advance their quotations as soon as they possibly can inasmuch as they claim that yarns are still selling below cost.

Spinners are quoting around 41c for 10s-1 cones, white, and 45½c for 22s-1. On 8s warp twist yarn in the various plies, mills are asking around 41c, with 30s-2 ply around 51c and 40s-2 ply around 58c.

PROVIDENCE, R. I. The Queen Dyeing Co. has taken out a permit to make alterations and improvements in its plant at 589 Atwells Ave.

Southern Spinners' Report

CHARLOTTE, N. C.—The cotton yarn market bulletin, issued by the Southern Yarn Spinners Association under date of Feb. 26 says, "Condition of the yarn market remains unchanged. Prices are about on the same level, but little trading reported although inquiries are more frequent. Yarn conditions are governed more by supply and demand than by fluctuation of cotton market. Spinners are holding prices firm at an advance over published quotations, and already curtailment has begun to manifest itself. It is evident the spinner intends pursuing a hand-to-mouth policy of operations until such time as demand increases and orders are sufficiently plentiful to permit of full running time."

N. Y. Cotton Yarn Market

(*Continued from page* 131)

have any amount of yarn on hand purchased for their own account and held for higher prices makes it impossible for the dealer to offer prices that are much lower than the spinner demands. Unless the market should give evident impression of a decline the likelihood of short sales is not as great as it has been nor the possibilities thereof as alluring.

Consuming Trades Dull

Reports from every section of the trade indicate that yarn consumers are most inactive and that the margin of profit at which business is being done is so small that there is little incentive for business except as yarn is needed from day to day. There seems to be hardly a class of trade that appears in a position to order normally. The towel manufacturers seem to be flat; the plush business, dull; dressgoods manufacturers report cessation of demand for their product and even the rug people, who continue to operate about as steadily as any other class of manufacturer, are complaining about lack of orders. No further evidence of operations by the wire trade is apparent. The buying that has been done of late is sufficient, according to reports, to take care of demand for a month or two and beyond this the wire people are not prepared to go. The whole trouble with the yarn consumer is that he has no faith in the market and he is not going to load up with yarn with the risk that prices will be cents lower before he comes to use it. This impression prevails even when the cotton market goes up and prices are firmer, as they have been this week. It is a question of waiting until a buyer becomes thoroughly convinced that there is to be no material recession. This means watchful waiting on the part of the dealer, who appreciates that he cannot force business and who knows that to name lower prices means cutting the ground from under his feet and

CANNON YARNS

Cotton Yarns *of* Quality

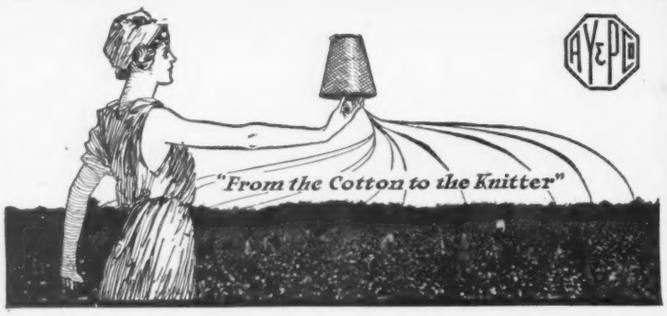
Quality:—We invite inquiries from the Knitter who puts *Quality* above *Price*—Who is proud of his product and guards it jealously. *Cannon Yarns* are dependable—The same high quality is maintained year after year.

The yarn is the product of our own mills, and back of every pound is the guarantee of

THE CANNON MILLS
INC.
From Spinner Direct to Manufacturer
PHILADELPHIA

New York Providence Boston
Reading, Pa. Chicago Utica, N. Y.
Chattanooga

THE STANDARD OF VALUE & QUALITY



AMERICAN YARN & PROCESSING CO.

General Office:
Mount Holly, N. C.

Spinners and Mercerizers
of
High Grade Combed and Carded Yarns

Our Mercerized Yarns are the Product of Our Own Mills

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HAROLD W. O'LEARY COMPANY
52 Chauncy St., Boston, Mass.

G. J. LOERZEL
166 W. Jackson Blvd., Chicago, Ill.

THOS. S. TULEY
1318 McHenry St., Louisville, Ky.

On Being Competent

The aim of a weaver or knitter is to produce fabrics or garments that will wear.

Therefore such matters as design, color, and finish are carefully considered — for they have an immediate influence on sales.

But how much more important than any or all of these is the quality of the yarn used.

If the yarn is Quissett Quality the product has a real foundation for sales.

Carded and Combed Cotton Yarns in all Numbers and Descriptions.
Ply Yarns our Specialty.
Egyptians, Sea Island, Peelers, Sakelarides, Pimas and Peruvians.

Quissett Mill-New Bedford, Mass.

Wm. M. Butler, Pres. Edward H. Cook, Treas. Thos. F. Glennon, Agent

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TREMONT and SUFFOLK MILLS

and other mills furnishing full range of all numbers

NEW YORK BOSTON PHILADELPHIA CHICAGO

JAMES E. MITCHELL COMPANY

Cotton Yarns

Philadelphia **Boston**

Quality First C-M

COTTON

CLARENCE L. MEYERS YARNS

2d and Somerset Streets, PHILADELPHIA

SILK

Cotton Yarn Markets—Continued

destroying any last shred of confidence that the buyer may possess.

Cotton Yarn Trade Note

The John F. Trainor Co., dealer in cotton yarns, announces its removal to the National City Bank Building, 17 East 42nd St., corner Madison Avenue, New York.

OBITUARY

Samuel McCollom

Samuel McCollom of McCollom & Post Co., silk manufacturers, died Monday night at his home in Paterson, N. J. after a short illness. Mr. McCollom was born in Paterson and became identified with the silk industry at an early age. In 1896 with Frank A. Post and George Bristow he formed the firm of Bristow, McCollom & Post. Upon the death of Mr. Bristow in 1914 the business was continued by McCollom & Post. Plants were owned in Paterson and at Nazareth and Allentown, Pa. In 1919 the Paterson plant was sold and attention concentrated on the Pennsylvania mills. He had been a member of the Silk Association for 22 years, had been a member of the Board of Managers for 15 years and since 1921 was a member of the executive committee of the Association. He always had a keen interest in arbitration and served from 1912 as an official arbitrator of the organization. He leaves a widow, a son and a daughter.

R. W. Altreuter

Royal W. Altreuter, well-known in the New York cotton yarn trade, died Sunday night following an operation for appendicitis. Shortly after leaving school he entered the cotton yarn department of James F. White & Co. where he remained about ten years. He subsequently took charge of a yarn department with Converse & Co., but gave up this position to enter the yarn brokerage business. He was doing business at the time of his death under the firm name of Altreuter & Moeller. He leaves a widow and one son.

John Hines

John Hines, superintendent and buyer of the Columbus (Ga.) Mfg. Co., died at his home this week, after a short illness. Mr. Hines was 68 years of age, and had been associated with the Columbus Mfg. Co., for several years. He is survived by his widow, a son, and two grandchildren.

John T. Wikle

John T. Wikle, purchasing agent for the Fulton Bag & Cotton Mills of Atlanta, Ga., died at his home there last week. He had been connected with these mills for the last ten years.

George Barber

George Barber, identified with the American Woolen Co. for 18 years died suddenly at Webster, Mass., at the age of 32 years. He was an assistant in the styling of Dept. 3 goods for about 14 years. When the American took over the plant now known as the Webster Mills, Mr. Barber was assigned to the styling of fabrics of that plant.

Cotton Strengthens Waste

Spot Breaking Through 26c Stimulates Entire Waste Market

BOSTON.—The cotton waste market shows slight improvement. Recent strength in cotton has proved quite helpful resulting in a larger number of inquiries some of them leading to good business. Prices for most materials are still wide, even Sak strips ranging from a sale of 23¾c up to 100% on days when cotton was 25c. Peeler comber moved during the week on a 22½-23½c level. Soiled cards in favor with woolen manufacturers range in price from 15 to 19c. The quality of this material is very variable not only as to length and character of fibre but in regard to shrinkage, the lower grades approximating oily card in the amount of grease and dirt they contain. Fly and picker are firmer. Fly has been moving on a 12½-13c level among traders with sales as high as 13½c at the mill. Threads are moderately firm although machiners are demanding lower prices. Fine white cop for breaking up purposes is quoted 17½-18c.

Strength in cotton is likely to bring in larger consuming demand according to a leading house which states that consumers habitually stay out of a falling market but begin to crowd in when prices rise. Any cheap lots of waste are snapped up quickly by the trading element. Linters are moving more actively, the recent low levels upon which these commodities were sold has firmed up to better prices. Linter consumption is increasing, amounting to 51,800 bales in January as compared with 40,590 bales in January, 1924.

English demand for the usual high grade materials taken by that market is practically negligible. Cotton waste imports for week ending Feb. 28 were the largest for several weeks. From Hamburg 300 bales arrived, from Italy 23 bales, and from Manchester 386 bales, making total imports 889 bales. Sweeps, for export are bringing good prices 6-7c it is said. The continental purchasers of these materials are able on account of their low labor costs to sort out very profitably the oily and soiled cards they contain.

Current Quotations

Peeler comber	22 —23c.
Peeler strips	21½—22½c.
Egyptian, comber	22 —22½c.
Choice willowed fly	12 —12½c.
Choice willowed picker	9 — 9½c.
Egyptian, strips	24 —25c.
Linters (mill run)	5½— 6¼c.
Spoolers (single)	15¼—16c.
Fine white cop	17½—18c.

J. B. JAMIESON COMPANY
COTTON YARNS
77 Summer St.
Boston, Mass.

Minimize your troubles - Insure maximum production
Weaving - COTTON YARNS - Knitting
Sold by
"INDUSTRIAL"
are GOOD yarns
INDUSTRIAL YARN CORPORATION
88 LEONARD STREET, NEW YORK

TILLINGHAST-STILES CO.
JESSE P. EDDY, Treas.
Cotton and Worsted Yarns
PROVIDENCE, R. I.
Room 922, Webster Bldg. 327 So. La Salle St., Chicago

ORSWELL MILLS Fitchburg, Mass.
COTTON YARNS
Carded and Combed—Gassed and Ungassed

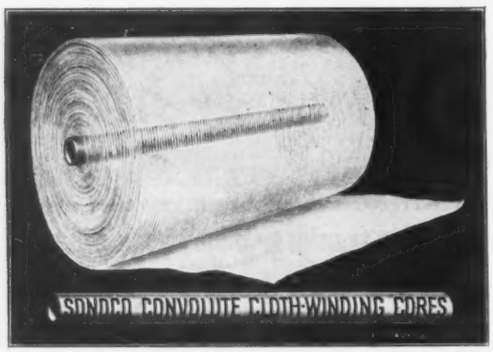
O. S. HAWES & BRO.
FALL RIVER, MASS.
COTTON YARNS ALL FORMS AND NUMBERS

COTTON HAROLD W. O'LEARY COMPANY YARNS
52 Chauncy Street, Boston, Mass.

THE JOHN F. TRAINOR COMPANY
COTTON YARNS
NEW ADDRESS:—17 East 42nd St., New York.
The National City Bank Building,
corner Madison Ave. and 42nd St.
Telephone—Murray Hill 0614-5

JOHN F. STREET & CO.
COTTON YARNS
201 Industrial Trust Bldg. PROVIDENCE, R. I.
CHICAGO PHILADELPHIA NEW YORK

EWING-THOMAS CONVERTING CO.
Specialists in Mercerized Yarns CHESTER, PA.
Warp Mercerizing for the Trade
Gassed—Natural—Bleached—Colors
DOUBLE MERCERIZED SPECIAL PROCESS



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Sonoco Products Company, Mfr., Hartsville, S. C.
Cones, Parallel Tubes and Cloth-Winding Cores

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Wool
Worsted
Merino
Silk Mixtures
Heather Mixtures

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COTTON MARKETS

Cotton Market Up On Spot News

Reactionary Sentiment Develops Above the 26-cent Level for May and July—Shipments Expected

It is probable that toward the end of this week the questions uppermost in the minds of conservative cotton traders after several days of steadily advancing prices, was whether the buying movement in Southern spot markets had not been pretty well satisfied, and whether cotton goods could be sold ahead in sufficient volume at prices commensurate with raw material values, to justify purchases of new crop months above the 25½c level. At the same time, there was little if any change in the generally bullish character of the news from the spot markets or weather reports from the Southwest, and while the market showed signs of hesitation after advancing to the 26¼c level for May contracts on Wednesday, the selling appeared to be chiefly in the way of liquidation or realizing.

Up to the middle of the week practically every report reaching here from the South emphasized a continuance of good demand and a very high basis for spot cotton in the South. It looked as if spot people who had sold cotton for spring delivery, or spinners who had not fully covered their commitments, were finding it very difficult to secure the desired grades or staples, either because of scarcity or of firmness on the part of holders. The situation in this respect, combined with the prompt stopping of March notices here at discounts showing nothing more than the bare cost of carrying cotton forward, seemed largely responsible for the advance which was led by the old proposition. Notwithstanding the continued absence of anything like adequate rains in the Southwest, new crop months became relatively easy on the advance above 25c. In some instances, short hedges were transferred from old to new crop positions as if in anticipation of shipments out of the local stock, and this may have accounted in some measure for the appearance of discounts on the new crop positions. At any rate, October contracts which were selling well over the price of May before the stopping of March notices, went to a discount of over 60 points on Wednesday. This tendency toward new crop discounts may have contributed to reactionary sentiment on the ground that there might be a lessening of competition for remaining old crop supplies or some reselling of the old crop against purchases of the new, in the event of an attractive difference between the two.

The announcement by the Department of Agriculture that as a result of allegations regarding untenderable cotton in the certificated stock at New York, there would be an investigation and reclassification of the supply held here, was without any discernible effect on the market. The feeling among local traders is that owing to an unusually large proportion of short staples in this crop, the presence of cotton true to the ⅞ inch type, official standard, has been solely responsible for the apparent disparity of near months as compared with Southern spot quotations and for the discounts at which near months have sold as compared with later deliveries. The demand has been for inch cotton or better, and the slower selling shorter staples, being in relatively large supply have naturally sought an outlet in the futures market. Under such circumstances New York would be the logical market for them to seek, as it is broad enough to afford adequate hedging facilities, and is also a convenient point from which to undertake their ultimate distribution. The responsibility for the grade and staple of the cotton delivered on contracts in the futures markets under the operation of the Cotton Futures Law, rests with the Department of Agriculture, and it is generally believed the investigation ordered will demonstrate that the Government classers are competent and have been careful in the exercise of their duties. It is believed, also, that the New York stock will begin to move out after the end of this month, the rumors being that some cotton is to be shipped to Japan and some to Germany.

Briefly, no fresh light has been

(*Continued on page* 159)

Cotton Statistical Data

(Fluctuations of Futures, N. Y.)

Option	Closed Feb. 25	For Week High	Low	Closed Mar. 4	Chge
March	25.09	25.98	24.93	25.66	+ .57
April	25.22	25.85	25.20	25.79	+ .57
May	25.35	26.25	25.18	25.92	+ .57
June	25.50	26.03	25.45	25.99	+ .49
July	25.65	26.35	25.44	26.07	+ .42
Aug.	25.45	26.78	25.20	25.62	+ .17
Sept.	25.60	25.80	25.24	25.47	— .13
Oct.	25.40	25.71	24.92	25.37	— .03
Nov.	25.42	25.60	25.06	25.35	— .07
Dec.	25.45	25.72	24.98	25.33	— .12
Jan.	25.27	25.45	24.79	25.01	— .26

Spot Fluctuations for Week

(Middling)

	N York	N Orleans	L'pool
Fri., Feb. 27	25.35c.	25.30c.	13.94d.
Sat., Feb. 28	25.35c.	25.35c.	13.82d.
Mon., March 2	26.05c.	25.85c.	13.94d.
Tues., March 3	26.05c.	25.85c.	14.15d.
Wed., March 4	26.05c.	25.80c.	14.18d.
Thurs., March 5	26.05c.	26.00c.	16.24d.

Spot Fluctuations and Stocks

	Prices Mar. 4	Stocks This week	Last year
Galveston	26.35	441,709	236,528
New Orleans	25.80	314,643	168,421
Mobile	25.50	12,554	9,952
Savannah	25.92	57,665	50,246
Charleston	.....	50,294	22,684
Wilmington	.....	36,260	20,662
Norfolk	25.88	94,852	75,166
Baltimore	26.25	1,325	2,132
Augusta	25.75	55,599	32,463
Memphis	26.00	81,165	100,792
St. Louis	25.75	4,369	5,020
Houston	26.00	521,798	214,174
Little Rock	26.00	22,323	25,256

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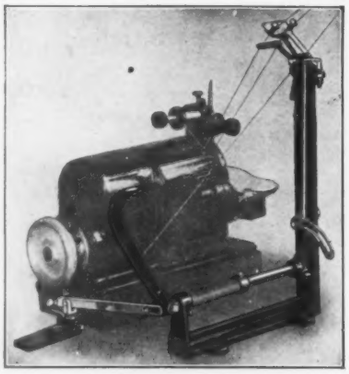

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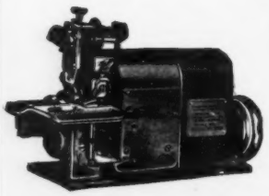

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Cotton Markets—Continued

Unsold Stock Is Low

Inquiry on Southern Markets Is Broadening Vigorously

MEMPHIS, TENN., Mar. 2.—Factors' unsold stocks of cotton here have been reduced to less than 20,000 bales of all grades and staples. While these stocks contain some staples, the larger quantity is under one inch in length, and a very considerable part is the low grade remnant of the crop gathered under difficult harvesting conditions, and heavily frosted. Inquiry is of almost peak period proportions, and sales including f. o. b., are running very heavy for the season.

Inquiry is spreading more and more to cottons under an inch in length, but buying, so far, seems to be reluctant. As to desirable cotton, especially staple lengths, basis seems to have been forgotten, and it is now rather a matter of bargaining, with asked prices frequently far above the market. There is not only scarcity, but what there is left of the supply is in strong hands. Quotations on staples above 1⅛ in length are regarded as nominal, although a few lots of 1 3-16 to 1 5-16 staples are yet to be found, but, usually, owners are disinclined to sell because of their belief in a higher market. Buyers' stocks amount to about 70,000 bales.

Short Interest Not Large

While the general impression prevails that much cotton is owed, and that considerable calling is yet to be done, it is believed that the unprotected short interest is not very large. Net receipts continue relatively large, while the quantity of cotton passing through Memphis is remarkably large for the season; sales at principal centers are about four times as large as they were for the corresponding week last year; shipments out of Memphis, including rebilled cotton, totaled 34,608 bales for the week, against 19,220 bales last year.

The highest priced cotton sold during the week was a small lot of good middling 1¼ staples, which brought 39c; a few bales of 1 3-16, strict middling, brought 36c, and another small lot of staples, strict middling 1⅛, brought 32c, or 700 on the March, New York contract.

Market Statistics

Basis Middling

	Saturday, Feb. 28	Saturday Feb. 21
10 Markets average..	25.47	24.44
Memphis	25.25	24.25

Premium Staples

First Sales from Factors Tables at Memphis

Grade Strict Middling.	Prices Firm	
1 1/8-in.	31c.	
1 3/16-in.	33.25c.	33.75c.
1 1/4-in.	35.00c.	37.00c.

Current Sales

	For Week	Week Previous	Week Before
Memphis total.	14,650	14,650	18,400
F.o.b. included.	9,450	11,750	11,900
10 markets...	134,793	134,344	122,352

Memphis Receipts, Shipments, Etc.

	For Week	Last Year	Year Before
Net receipts ...	5,482	4,825	2,233
Gross receipts..	29,202	15,503	15,881
Total since Aug. 1, net	388,788	249,880	319,699
Shipments	34,608	19,220	20,315
Total since Aug. 1	1,034,302	716,442	897,191
Total stock.....	86,031	104,908	117,365
Decrease for week	5,406	3,717	4,434
Unsold stock in hands of Memphis factors..	17,000	22,000	——
Increase for week	3,000	——	——

Premium Cottons Advance

Basis as Well as Futures Marked Up—Egyptians Quiet

BOSTON, March 4.—Uplands and the shorter premium cottons have shown more strength in the latest advance than have extra staples. Basis on the former has been marked up about the same amount as futures, the net advance being a total of approximately 100 points. Asking prices on extra staples have been advanced proportionately, but while it may be impossible to purchase sizeable lots of extra staples at the minimum values recently quoted, small lots can be found thereat and quotations have not been changed.

Small lots of full 1¼ inch hard western cotton of strict middling grade may still be picked up as low as 43c, but for a lot of 500 bales or more it is quite possible that more than 45c will have to be paid; the same is true of anything longer than 1⅛ inch. All grades appear to be held with equal firmness.

There has been no marked change in the Egyptian market during the week, the fluctuations covering a decline of about 75 points in Sak. futures and shipment cotton, and an advance of about the same number of points in Uppers. The October, Upper option shows a net advance of 57 points for the week, while the November Sak. option is up 95 points as compared with a decline of 75 points in the March Sak. option.

A fair idea of the acuteness of the scarcity of high grade Sak. may be obtained from the fact that a little better than 80c was paid in the local market last week for about 100 bales of top grade that one buyer had to have. On the other hand, spot Uppers can be picked 2 to 2½c below the price of shipment cotton, but there is some question as to the grade of the spot cotton that is being sold at these prices.

Current Quotations

Average prices for March-April shipments of middling and strict middling hard western cotton (full-lengths) are as follows:

	Middling	St. Middling
1 1/16 in.....	29 to30c.	30 to31c.
1 1/16 to ⅛ in.....	29½to30½c.	30½to31½c
1 ⅛ in	31 to32c.	32 to33c.
1 3/16 in	35 to37c.	36 to38c.
1 ¼ in	42 to45c.	43 to46c.

John Malloch & Co., Boston, quote cotton for March-April shipments, Egyptian, c. i. f. Boston as follows: Medium Sakellarides 66½c, off ¾c from Feb. 25; Medium Uppers, 41½c, up ⅞c. They report closing prices Mar. 4 on the Alexandria exchange as follows: Mar. (Sak.) $66.35, of 75 points from Feb. 25; Apr. (Uppers) $36.60, up 75 points.

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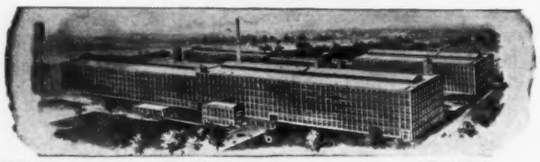

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WORSTED YARN MARKETS

Yarn Quotations Slightly Easier

Large Sale of Heavyweight Yarns Reported—Several Spinners Reduce Prices

Although the market is handicapped by low priced stock lots and certain spinners quote cheap figures to secure immediate business there is a more optimistic feeling noted than has been in evidence for the past ten weeks. This is due to the fact dealers have received a larger number of inquiries particularly from weavers, and while the majority of these have not yet resulted in orders a slightly freer movement to mills is reported. A number of representative spinners have reduced their asking prices from two and a half cents to five cents while an equal number continue to demand their old prices, refusing to lower quotations for the small amount of business now available. Extremely low prices are reported by manufacturers buying spot lots from dealers desiring to turn their yarn stocks into cash quickly. It is reported weavers are now receiving a larger volume of heavy-weight orders than they had expected and therefore will need additional yarn.

Large Sale Reported

One of the most noticeable features of the market was the sale of more than 225,000 lbs. of Bradford weaving yarns, being for 2-36s three-eighths by an Eastern spinner to three manufacturers in the Philadelphia district. This amount of business was placed calling for delivery during the next three months for use in heavy-weights. It was taken by a spinner who is usually able to accept low priced business by running both night and day on three numbers so they are able to make a small profit even at the low figures at which this business was taken. Although the price feature was not all spinners could desire it is regarded as a favorable indication and it is believed it will cause other manufacturers to come into the market who have been postponing purchases for purely psychological reasons. It is pointed out by spinners and dealers the easing of yarn quotations has been caused by lack of demand not because spinners are able to turn out yarns at lower cost.

However, buyers have witnessed a continuous easing of prices for spot lots of which there has been sufficient to care for their needs during the past two months and, therefore, they hesitate to place important orders as they feel prices will continue to remain in this position. Buyers who have followed this policy point to the success of their method of buying and ask why they should change. There are several factors which should be taken into consideration which may change the entire situation. Spinners are curtailing production more closely to current consumption by manufacturers than in any previous period of dull demand and stocks now on hand represent a small surplus so that a buying movement of any consequence, it is stated, would clean spot lots up quickly, upon which manufacturers' prices ideas are based, and they then would be dependent upon spinners' prices. This is becoming more important in view of the fact weavers of men's wear are now reporting the receipt of larger goods orders.

Colors in Demand

A similar condition is expected to develop in dress goods after the new lines have been opened and goods buyers have had an opportunity to pick out the lines which will be the style features of the season. Colors and fancy weaves are going to play an even more important part in men's wear than previously noted, manufacturers state. A number of more conservative weavers hesitate to enter this field believing this trend will not last for a long period but rather prove temporary and in fact will hasten demand back to more staple lines as a contrast. They assert the consumer will be in a mood to return to conservative staples after such a season of bright colors and fancy weaves.

Between the viewpoint of manufacturers who believe they will be able to purchase spot lots as needed throughout the next few months and that of spinners who assert they are unable to lower quotations from their recent level, there is a group holding a compromise viewpoint over the immediate future trend, looking for a larger and more profitable volume of business to result at prices possibly half way between these contrasting ideas. From the largest sales recently reported it is indicated this may occur. It is stated a number of spinners could do business on this basis and make a small profit if they were assured of a larger amount of business which would allow them to reduce their overhead costs through more active rate of operations.

Outerwear Interest Small

Knitting yarns continue quiet and important sales are not noted. Spinners are becoming dubious over a large season's business from this trade this season, finding the demand for novelty effects in rayon and mercerized yarns has curtailed considerably the interest displayed in higher priced worsted yarns. Prices of knitting yarns while soft in spot lot quantities, continue reasonably steady, although five cents lower than recent highest quotations named. On the basis of $1.15 quarter blood wool, which is a low price even at this time, spinners assert it costs them $1.60 to make 2-20s without adding any profit. Sales have been made at this price in small amounts this week. Hosiery and underwear yarns are dull and a wide range in selling prices is noted, spot lots selling at 20c under spinners' asking prices.

Quotations

(Corrected to Close of Business Wednesday)

Bradford System

2-12s to 2-16s, low com	1 40—1 45
2-20s to 2-24s, low ¼	1 55—1 65
2-20s to 2-26s, ¼ blood	1 65—1 75
2-26s to 2-30s, ¼ blood	1 70—1 80
2-30s to 2-32s, ¼ blood, S. A.	1 75—1 85
2-32s ¼ blood, domestic	1 80—1 85
2-20s, ⅜ blood	1 90—1 95
2-26s, ⅜ blood	1 95—2 00
2-36s, ⅜ blood	2 05—2 10
2-32s, ½ blood	2 25—2 30
2-36s, ½ blood	2 30—2 35
2-40s, ½ blood	2 35—2 40
2-50s, high ½ blood	2 55—2 60
2-50s, fine	2 70—2 75
2-60s, fine	3 10—3 15

French System

20s, quarter	1 60—1 70
20s, high quarter	1 75—1 85
20s, ⅜ blood	1 95—2 05
30s, ⅜ blood	2 15—2 15
30s, ½ blood	2 30—2 40
40s, ½ blood	2 45—2 55
50s	2 70—2 80
60s	3 10—3 20

Knitting Yarns in Oil (Bradford)

2-20s, low ¼ blood	1 45—1 50
2-18s to 2-20s, ¼ blood	1 60—1 70
2-26s, ¼ blood	1 65—1 75
2-30s, ¼ blood	1 70—1 80
2-20s, ⅜ blood	1 80—1 90
2-20s, ½ blood	2 30—2 40

French Spun Merino, White

30s, 50-50	1 75—1 85
30s, 60-40	1 85—1 95
30s, 70-30	1 95—2 05
30s, 80-20	2 05—2 15

BRADFORD TOP AND YARN CABLE

Bradford, Eng., March 4 (Special Cable to TEXTILE WORLD).—Bradford market for tops is quiet with medium and coarse crossbreds steady at late rates. Merino tops are still without basis but users are more inclined to pick up cheap lots. Sixty-fours generally are quoted at 65d. but purchasable at 60d. Fifty-sixes are at 47d.; 46s carded at 32d.; 2-48s botany yarn at 7s. nominal. A few spinners with stocks are making forced sales at low prices. Crossbred yarns are steady with slightly more business.

Unsettled Top Market

Quotations Nominal—Discouragingly Low Bids Refused

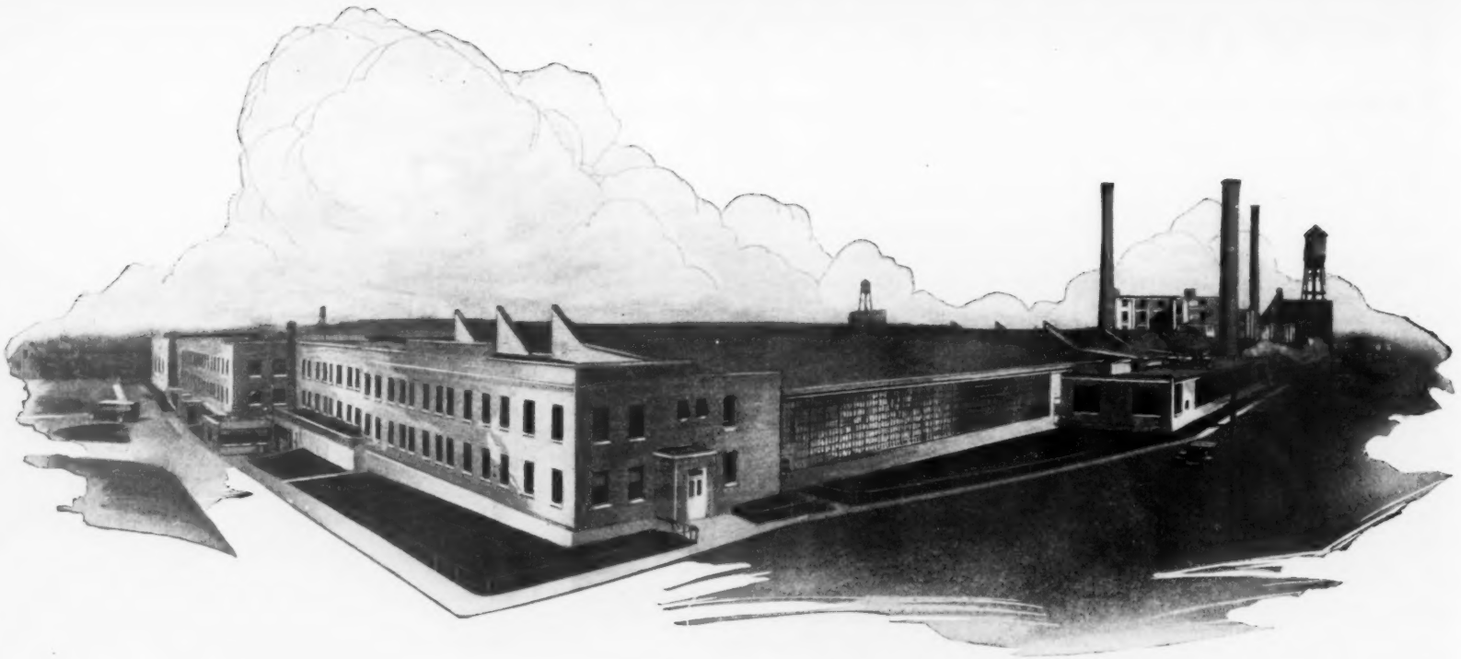
BOSTON.—The top market continues unsettled and very inactive so far as the receipt of new business for future combing is concerned. Offers that are being made, rather in the nature of feelers than potential purchases, are on such low levels that standard top makers refuse absolutely to consider business on any such basis. Limited spot lots seem to be available here and there and the low prices accepted are based evidently on other considerations than those of wool values. These offers cover such low prices as $1.80 for fine, $1.70 for ½ blood, and $1.15 for high ¼ blood. The wool market will have to take a considerable slump in price as well as accumulate sizable stocks before anything like these offers will be accepted by standard top makers.

Continued weakness in the Bradford market is causing a little uneasiness and it is possible at this time to import Bradford made tops equal to our fine qualities at $1.95 American condition. If lower wool values are registered in London next week, Bradford may sink lower.

Consumers of noils are holding off from purchasing in anticipation of lower wool values being registered in London and Australia this month and until the status of wool is determined at these foreign points it is not likely that consumers of noils unless they are in actual need will come into the market and pay the very prices demanded. The Bradford market is a little more in favor of the importer. Production however is very restricted as is the case in the American industry also. The Bradford top market is still declining and is now affecting noils, all qualities of these commodities being off 1 penny per lb. Weakness in the local top market has not affected noil prices. Noils are still on the high level of the year and this is not true of any other textile market dealing with raw materials. Mohair noils have not made any comeback as yet. Many of them are on the bargain counter but cannot be sold even at low prices. Colored noils are moving very slowly. Knitting mill demand for carbonized noils is indifferent. Specialty noils like cashmere and camelhair are in sample demand only.

Current Quotations

	Tops	Noils
Fine	$1.95—....	125–128c.
Half-blood	1.77–1.79	118–120c.
High ⅜ blood	1.57–1.60	105–110c.
Aver. ⅜ blood	1.52–1.55	95–100c.
Low ½ blood	1.40–1.45	90– 95c.
High ¼ blood	1.37–1.40	85– 90c.
46s	1.25–1.26	75– 80c.
44s	1.14–1.15	70– 75c.
40s	1.08–1.10	65– 70c.
36s	1.05–1.07	65– 70c.



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We want every maker of finished textiles to know what many already know about the quality standards of Du Pont Fibersilk. Any one of our sales men will be glad to demonstrate Fibersilk in your own plant, and prove to your satisfaction its economy and intrinsic merit. He will also explain how to use it to best advantage in every operation. Call on us for this service—we will consider it a favor.

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64 Wellington St., W., Toronto

DU PONT FIBERSILK

Worsted Yarn Markets—Continued

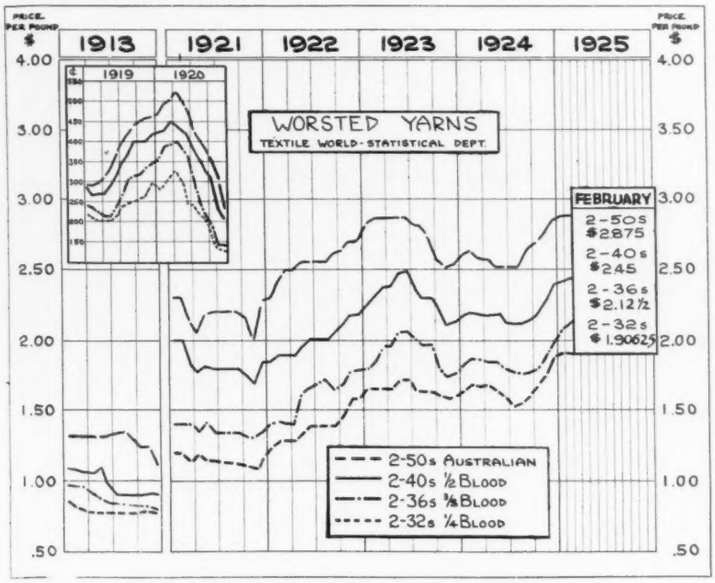
Inert Yarn Market

Quotations Nominal—Low Priced Business Offered

BOSTON.—Worsted yarns do not seem to have made the improvement that was expected prior to the goods opening and the long anticipated event has passed without causing much more than a ripple of buying interest. The situation is difficult of analysis but the ready to hand explanation is that it is more than difficult to pass over to the consumer fabrics based upon current values in wools and their semi-manufactured products. The situation seems disappointing all along the line and it is by no means certain that even a marked decline in the foreign wool markets next week would have little immediate effect beyond throwing the several associated markets out of joint, necessitating further long slow adjustment. The general situation in wool tops and yarns may be seen in the following table which displays approximately the relation of the several markets at this time.

	Wools	Tops	Yarns
Half blood	1.40-1.45	1.80-1.82	2.35-2.40 for 2-40s
Three-eighths blood	1.32-1.35	1.63-1.66	1.90-2.00 for 2-36s
Quarter blood	1.18-1.20	1.30-1.35	1.65-1.70 for 2-20s

The following quotations represent approximate though completely nominal quotations in the Boston market: 2-20s, 50s, $1.60-$1.70; 2-36s, 58s, $1.90-$2.00; 2-40s, 58s, $2.15-$2.25; 2-40s, 60s, $2.35-$2.40; 2-40s, 60-64s, $2.43-$2.45. In knitting yarns 2-24s, 46s, $1.60-$1.65; 2-26s, 50s, $1.70-$1.75; 2-26s, 58s, $1.90-$1.95.



Worsted Yarn Trade Note

Arthur A. Bubbins formerly with Haddon, Talbot & Smeeton, has become associated with the Passaic Worsted Spinning Co., of Passaic, N. J., and will have Boston offices at 212 Summer Street.

SILK YARNS

Rayon Featured In Fall Cottons

Producers are Looking for Still Larger Consumption of Artificial Silk

The important place that artificial silk is assuming in the cotton goods trade is seen in the new fall lines of several large cotton manufacturers. These are full of numbers that combine rayon and cotton in harmonious designs and beautiful decorative effects. The line of the Lorraine Mfg. Co. is a striking example of the way that the larger cotton mills are trusting to rayon to sell their products. The same trend, however, is noted in the offerings of practically all mills, many of which relied entirely on the old stand-bys in past years but now find it necessary to turn to the novelty fabrics.

The fact that the larger artificial silk producers were able to sell their entire output through the second quarter within a few days of the opening of their books, is due in a large measure to the great increase in the consumption on the part of the cotton mills. Mr. Salvage of the Viscose Co. is of the opinion that the end is far from in sight and points out that instead of being a competitor, rayon is really an ally which will tend to stimulate rather than decrease the consumption of the older fibre.

Sellers are now agreed that the cotton mills are in the lead as far as the

Pocasset Worsted Company, Inc.

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Office and Mills Thornton, R. I.

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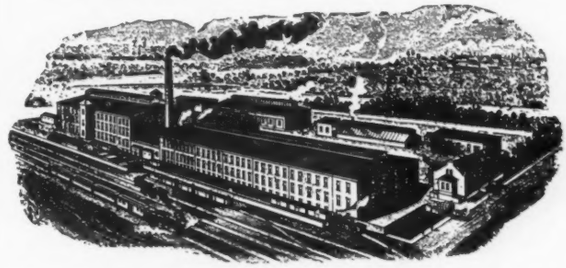

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Silk Yarns—Continued

use of rayon is concerned. Up till the present season knitted outerwear was the largest consumer but quiet conditions in this field for the current season now puts the latter behind not only the cotton manufacturers but secondary in importance to knitted underwear as well.

Prices are as follows:

	A Quality unbl'ched	B Quality unbl'ched	C Quality unbl'ched
60 Denier	$3 40	$3 15	.....
70 Denier	3 25	3 05	.....
80 Denier	3 10	2 90	.....
90 Denier	3 00	2 80	.....
100 Denier	2 90	2 70	$2 50
120 Denier	2 45	2 30	2 10
130 Denier	2 25	2 10	1 90
150 Denier	2 00	1 90	1 80
300 Denier	1 75	1 65	1 55

Combination yarn prices are as follows:

80 Denier cellulose	
3 ends 13/15 double extra A raw silk	$4 85
4 ends 13/15 double extra A raw silk	5 05
5 ends 13/15 double extra A raw silk	5 20
150 Denier cellulose	
1 end 13/15 double extra A raw silk	3 10
2 ends 13/15 double extra A raw silk	3 45
3 ends 13/15 double extra A raw silk	3 65

Spun Silk Quiet

Mills Buying Some Foreign Yarns Where Exchange Favors

The spun silk market was quiet last week as far as domestic yarns were concerned. Prices held firmly, however, around previous levels of $6.10 for the 60-2 yarns and $4.75 for the singles. Producers have little or nothing to sell for nearby deliveries and manufacturers are unwilling to anticipate as yet. The weakness in franc and lire exchange which was particularly noticeable in the former, put quotations for schappe on an attractive basis and mills in some cases took advantage of this situation. Domestic sellers stated that quite a bit of business was lost last week for that reason.

Prices are as follows:

60—2	$6.10	30—2	$5.30
50—2	5.80	20—2	5.00
40—2	5.55	60—1	4.80

Thrown Silk Active

Mills Buy as Prices Work Lower

The better tone and more active business in thrown silk noted toward the end of the previous week, was well maintained in the past seven days. Manufacturers reversed their usual procedure of buying on the rise, and welcomed the lower prices made possible by the decline in raw silk. Two thread georgette was in particularly active demand and large sales were reported on the basis of $6.15 to $6.25. Other crepe constructions were also wanted with many mills desiring immediate delivery. The call for spot lots cleaned out dealers' stocks in most crepe yarns. Manufacturers are working very close against actual requirements which leads to the expectation of further buying if prices should be kind enough to react again. Prices are as follows:

(60 days basis)

Japan Organzine, 2 thd XXA in skeins	$7 90
Japan Tram, 3 and 4 thd in skeins	7 10
Japan Tram, 5 thd on cones	7 00
Japan Crepe, 3 thd on bobbins 65 turns	7 85
Japan Crepe, 2 thd XXA on bobbins 70 turns	8 30
Canton Crepe, 3 and 4 thd on bobbins	6 70

British Rayon Production

WASHINGTON, D. C.—Great Britain produced approximately 20,000,000 lbs. of rayon in 1924, an increase of 3,000,000 lbs. over 1923, according to trade estimates. Asst. Trade Commissioner Isaacs, at London, reports to the Commerce Department. The trade generally admits that one concern using the viscose process produces approximately 80% of the British output and one of the principals of the firm states that its output is about 94% of the total. The British industry still is expanding, and new building operations now are in progress. The demand for artificial silk products among the British public is growing but is competing against cotton products rather than silk. The Council of the Silk Association of Great Britain and Ireland has formally agreed to accept "rayon" as the trade term.

Italian Rayon Situation

WASHINGTON, D. C.—The Italian artificial silk industry is developing steadily and apparently is in a healthy condition, reports Commercial Attache H. C. MacLean, at Rome, to the Commerce Department. Domestic production is improving and increasing and the demand of foreign markets is larger. One of the largest Italian companies estimates its daily output last November at 50,000 lbs. against average daily production in 1921 of 7,000 lbs., 12,000 in 1922 and 25,000 in March, 1924. An unsuccessful attempt has been made to produce in Italy the cellulose needed in the manufacture of rayon. The rayon mills are working on contracts covering consignments for the first 6 months of the year. There is no indication of an abatement in the demand. Prices are firm and it is expected that they will take a slow but steady upward trend during the next few months.

Silk Containers May Be Returned Collect

On and after March 1, 1925, express shipments of empty boxes, crates, trunks, and warp beams may be returned to consignors collect instead of prepaid is a new ruling of the express company, as announced by the Traffic Bureau of The Silk Association of America.

The new provision, which it may be noted does not contain the usual stipulation that shipments must be prepaid, reads: "Silk or Yarn Empties: Boxes, crates, or trunks in which silk or yarn, wound on spools or beams, has been shipped by express returned with the spools or beams therein, minimum 25c. per shipment, one-half regular rate. Beams upon which silk or yarn has been wound, may be returned not crated at above rating."

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Silk on Quills or Beams
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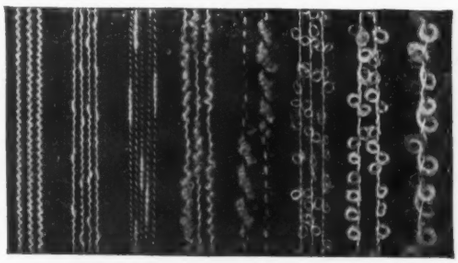

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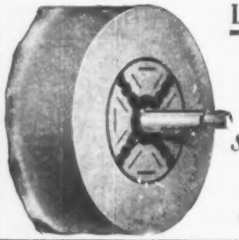

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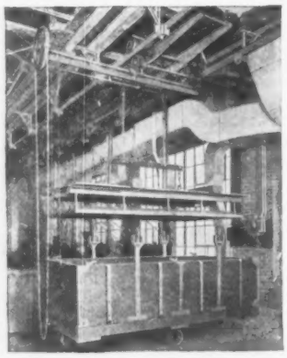

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DYEING MACHINE CAGE WITH DETACHABLE TOP

To load raw cotton, wool, rags, noils or shoddy it is necessary only to dump the stock into the cage, and it is readily distributed evenly thruout the cage.

With this top there is a tight fitting cover for the machine.

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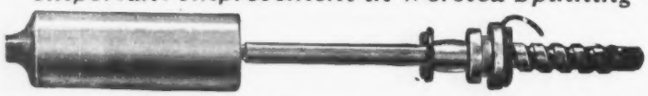

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saves oil, prevents clogging with dust and lint, thereby insuring longer life to the tubes, saves labor, maintains uniform speed, *and most important of all,* makes PERFECT YARN.

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FOREIGN **WOOL** DOMESTIC

252 Summer Street : BOSTON

WOOL MARKETS

Market Awaiting London Sale Result

Activity at Minimum on Summer Street—Prices Easy on Thin Demand

BOSTON.—The wool market continues inactive although there is a little buying chiefly from woolen mills who are in receipt of additional cloth orders. Until the London sales open the market is likely to remain positively inert. More than the usual importance is attached to the resumption of London sales on Monday next. Wools, tops and yarns have now reached something of an adjusted situation between the commodities covered by these markets. Since the first of the year wools and tops have softened somewhat but yarns have remained relatively firm. In all three markets there is an indifferent demand. The goods market refusing to pay the price placed by a manufacturer on his fabrics brings about a refusal of the weaver to pay the prices asked by worsted spinners and the latter in their turn refuse to buy tops at present quotations, while the topmakers for their part find it impossible to secure topmaking wools except at negligible concessions.

There is still enough uncertainty in the situation to induce timid sellers to make concessions in order to close a sale. Australia holds the key to the wool situation and the restriction in offerings intended to keep prices firm, while it may be of advantage to wool growers the world over will, so it is said, tend to prevent wool manufacturing from getting down to a sound economic basis. Sydney and London sales resume next week and until it is seen whether recent declines are extended or whether an upward reaction ensues based upon Continental and Japanese demand assisted by Bradford and American buyers the local wool market is likely to do little.

If low values are registered next week they are not likely to be so precipitous as to bring the entire level of foreign staples to an actual importing point and short of this, in view of small stocks Boston is not likely to be affected to any considerable degree except perhaps in sentimental and pessimistic circles. On the other hand any general firmness is likely to reassure mill purchasers as to the real status of wools in general, and the Boston market in particular, and to bring in buying which is being held back until Australia and London have declared themselves.

Wool buying on the street is approaching a minimum but withdrawals of foreign wools in bond are on the increase. Although goods buyers are partially convinced that fabrics offered by the mills are reasonably priced they have absorbed sufficient knowledge of the rather critical situation in the foreign wool markets to make their operations spotty and cautious rather than in satisfactory volume from the mill standpoint.

Wool consumption figures for Jan. show an advance of 16% over Dec. rising from 44,266,000 lbs. to 51,435,000 lbs. Average monthly consumption by quarters for 1924 was as follows: Jan.-March. 50,700,000; April-June 39,280,000; July-Sept. 38,826,000; Oct.-Dec. 49,660,000. The first three months of the year usually constitute a good period for wool consumption and the all important question that only the future itself can decide, is whether the second and third quarters of 1925 will run into a decline as was the case last year.

BRITISH WOOL CABLE

Bradford, Eng., March 4 (Special Cable to TEXTILE WORLD).—Market is awaiting further test of raw material at London on March 10. Auction offerings include 105,000 bales, of which 8,800 bales are South African, 29,700 New Zealand and remainder Australian. Total catalogue is modest and offerings of crossbred wools small. At East India wool sales this week, American buyers were quiet and prices 5 to 10% below January.

Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for week ended Feb. 28, with totals for year to date as compared with those of a similar period in 1924, based upon data compiled by the Market News Service of Bureau of Agricultural Economics, Department of Agriculture, are as follows in pounds:

RECEIPTS AT BOSTON SINCE JAN. 1

	Week ended Feb. 28	1925	1924
Dom.	163,000	8,225,000	17,564,000
Fgn	5,961,000	53,246,000	41,610,000
Total	6,114,000	61,471,000	58,974,000

IMPORTS AT PRINCIPAL PORTS

Boston	5,951,000	53,246,000	41,870,000
Phila.	679,000	27,216,000	11,481,000
New York	2,216,000	14,899,000	14,161,000
Total	8,846,000	95,361,000	67,312,000

Quotations

(Corrected at Close of Business Wednesday)

Ohio, Pennsylvania and West Virginia

Fine delaine	.65—66
Fine clothing	.56—57
½ blood	.65—66
⅜ blood	.66—67
¼ blood	.66—67

Michigan and New York

Fine delaine	.64—65
Fine clothing	.54—55
½ blood	.65—66
¼ to ⅜	.65—67

Indiana, Missouri and Similar

½ blood	.64—65
⅜ blood	.65—66
¼ blood	.66—67
common	.56—58

California (Scoured Basis.)

Northern, 12mo.	1.60—1.65
Sp'g middle counties	1.33—1.35
Southern, 12 mo.	**1.18—1.23**
Fall free	**1.22—1.25**
Fall defects	**1.10—1.15**
Carbonized	**1.25—1.30**

Texas (Scoured Basis.)

Fine 12mo.	1.60—1.65
Fine 8mo.	**1.50—1.53**
Fine Fall	**1.45—1.50**

Pulled—Eastern (Scoured Basis.)

A-A	1.55—1.60
A-Super	1.35—1.45
B-Super	1.16—1.23
C-Super	.90—1.00
C'bgs fine	1.30—1.35
Medium B	1.15—1.25
Medium C	.90—1.00

Montana, Idaho and Wyoming (Scoured Basis.)

Staple fine	1.56—1.60
Do. ½ bld.	1.42—1.48
Fine & fine medium clothing	1.35—1.40
¾ blood	1.28—1.32
¼ blood	1.18—1.22

Utah

Fine	1.55—1.60
Fine medium	1.40—1.45

Colorado and New Mexico

Fine	1.52—1.55
⅜ blood	1.22—1.30
½ blood	1.38—1.44

Nevada (Scoured Basis.)

Fine	1.52—1.55
Fine clothing	1.33—1.40

Mohair Domestic

Best combing	.83—88
Best combing	.73—78

Foreign (In Bond)

Turkey	.50—55
Cape	.40—50

Foreign Clothing and Combing (In Bond.)

Scoured Basis—Cape:	
Super 12 months	1.38—1.42
Super 10-12 months	1.22—1.25
Australian	
70s	1.53—1.55
64s	1.38—1.42
58—60s	1.25—1.30
Grease Basis: Montevideo:	
58—60s	.68—70
56s	.64—66
50s	.59—61
Buenos Aires:	
44s	.48—50
40s	.44—45

Foreign—Carpet (Grease Basis in bond)

Aleppo: Washed	.46—48
Angora	.27—29
Awassi: Washed	.42—44
Karadi: Washed	.41—43
China: Combing	.35—36
No. 1 W'ld, ball	.50—53
W'l'd filling	**.31—33**
Szechuen ass't	.31—32
Cordova	.32—33
Khorassan: White, 1st clip	**.30—31**
2nd clip	**.22—23**
Mongolian: Urga	**.40—42**
Manchurian	**.32—34**
Black Face	.33—35
Servian skin wool	**.33—35**
East India: Kandahar	**.40—50**
Vickan'r	**.64—74**
Joria	**.68—78**

Quotations Soft

Little New Business Reported—Results of London Sales Awaited

PHILADELPHIA.—Demand for all grades is quiet and while greater concessions are being offered in pulled wools than in territory and fleece, the entire market is soft. This is more so in fine grades than in medium wools although lower prices are being quoted on quarter and three-eighths fleece wools. One dealer is quoting best quarter blood at 65c and three-eighths at 66c, which compare with quotations of 69c to 70c at the high point of the market.

Although few in the trade, and this includes a large number of manufacturers, look for a further drastic decline, there has been a weakening of confidence not only among mill buyers but also among dealers and few are willing to operate at this time. Dealers report manufacturers have in most instances only 60 days supply of wool on hand, which means considerable buying must soon be done.

Several pulled wool dealers report a fair volume of business within five cents of their former prices, one stating they had experienced the largest month's business in February for more than a year. Within the past two weeks this dealer has sold over 1,000 bags of B wools at prices averaging $1.20, including a fair proportion of high Bs. This condition is not general, others stating they find it difficult to move pulled wools even at a sacrifice of more than five cents.

An average B was offered among local dealers this week at $1.05 and found no one willing to buy. They then sold the lot to a mill at $1.15, which indicates an important factor has been the loss of confidence.

Domestic fleece quotations are nominal as few sales of importance have been reported. Three-eighths is as strong as any grade and the easiest to move. Territory wools are not moving in this market. Dealers however state prices, especially in fine wools, are weak in sympathy with foreign markets and $1.55 is now quoted as the top in comparison with $1.60 formerly asked.

Fine pulled wools have declined to a greater degree, AAs now being held at $1.50 by several dealers which compares with $1.65 recently asked. Carpet wools are quiet and less steady particularly in East India grades.

FALL RIVER, MASS. The Annawan Mills, Inc., a waste mill financed by a number of the local cotton mills, has purchased the Grinnell Yarn Mills, formerly the Erco Mills where the waste will be converted into coarse yarns after being prepared at the Annawan plant. The two mills adjoin each other and have been under the same management for some time.

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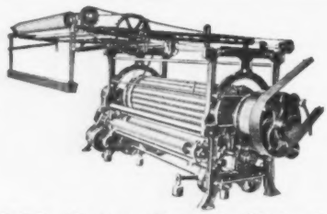
Nappers

for Pile Fabrics, Woolen, Cotton and Knit Goods

D. & F. Nappers are the Pioneers in this country. By force of their numerous advantages they have well earned their name as

the best Nappers made

Single and Double Acting Machines



14—36 Rolls

24 Roll Double Acting Napper for Woolen Goods

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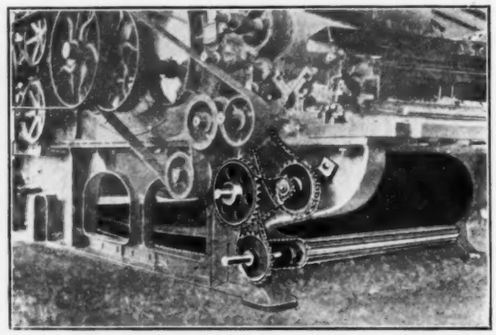
DAVIS AND FURBER MACHINE COMPANY

NO. ANDOVER, MASS.



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Every worth-while article is backed by an idea. In this case the idea was that a large part of the waste produced by cards could be saved.

The result of this idea was the Choquette Patent Waste Saver. That it does save waste — between 50 and 75% — is attested to by scores of users.

Not very often can one purchase an article which pays for itself in such a short time. This waste saver is attached to any make of card. It works independently — it is out of the way.

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Try one on a card. Our illustrated folder gives more details. Write for a copy.

H. G. GREENFIELD ENGINEERING CO.

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PATENT WASTE SAVER

LOGEMANN

Hand-Belt-Electric-Hydraulic

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Every year, repeat orders from users of LOGEMANN baling-presses increase steadily, denoting the satisfaction derived from this equipment.

But—

Until every mill-owner, superintendent, and operator, is familiar with the LOGEMANN line of balers for yarn, waste and finished goods, our advertising has not accomplished its purpose.

We solicit your inquiries.

LOGEMANN BROTHERS CO.

MAIN OFFICE & WORKS

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COTTON FLOCKS

FOR FLOCK DOT FABRICS

Guaranteed free of fillers or foreign matter,—Write for samples,

CLAREMONT WASTE MFG. CO., DEPT. W, CLAREMONT, N.H.

ALL STEEL

ECONOMY

FIRE PROOF

BALING PRESSES

ALL SIZES FOR ALL PURPOSES

LARGEST LINE BUILT IN U.S.A.

ECONOMY BALER CO., DEPT. J, ANN ARBOR, MICH., U.S.A.

Birch Brothers

TEXTILE FINISHING MACHINERY. INVENTOR OF "CORONATION" CONTINUOUS CRABBING, CLOTH OPENING and FOLDING. PIECE END SEWING MACHINES, ETC.

SOMERVILLE, MASS.

RAGS, SUBSTITUTES AND WASTE

Substitutes Await Business In Volume

Fibres and Rags on Slightly Lower Level—Mill Wastes High and Hesitant

The remorked wool market is quiet and rather easier. Reworked wool manufacturers would like to get their raw materials on a lower level and to some extent their wish is being gratified. The whole industry might benefit very considerably if the general price level for reworked materials fell to a lower level, but at the present time any decline in prices of processed products is due chiefly to lack of mill demand rather than to any lower rag basis likely to be permanent. Inactivity noted in the placing of new business is not at all unusual at this period of the year and as a matter of fact the situation is very similar to a year ago. The only noticeable difference in the two periods is that demand from manufacturers of overcoatings is likely to be on a smaller scale than a year ago.

A leading manufacturer of reworked wools referring to the situation in old woolen rags stated that the "rag market was not as high as it seemed a few weeks ago, and is not as low as it looks at the present time." In recent depression houses have been been firm in their quotations, the low prices in general being made by men in a smaller way of business.

The Dewsbury English market is quiet but prices are unsettled by lower wool values the market ruling in favor of the buyer. There is no such close connection in the Boston market between rags and wools as is the case in the Dewsbury market. British demand for their own rags is likely to increase as heavyweight woolen manufacturing is better than at any time this year. Rag collections it is said are not nearly so efficient as they were, many rag collectors taking the unemployed "dole" instead of working.

Prices in the wool waste market are irregular. At times there is a very wide range in the value of any given material, depending upon whether one is selling or buying. Prices quoted at the beginning of the year are considered by an authority on waste as being unwarranted and representing asking prices rather than intrinsic values. The slight decline that has occurred since has not been so disturbing as some people suppose.

A strong upward movement in the raw silk market is helping silk wastes and by-products. A larger consumption of silk waste is regarded as highly probable. Lap waste is quoted $1.10-$1.26; ring waste 80c-$1.00; long noils 45-50c; short noils 28-32c. Artificial silk wastes are firm. Sir Arthur Goldfinch, head of Bawra, has stated in a recent article that owing to the high price of wool, artificial silk will continue to be used increasingly as a substitute for wool especially in mixed fabrics. Artificial silk threads are quoted 38-40c, garnetted 48-52c and colored threads 25-30c.

Quotations

(Corrected at close of business Wednesday)

Wool Waste

Lap—	
Fine White	$1.60—$1.55
Fine Colored	1.30— 1.35
Medium Colored	.65— .70
Ring—	
Fine Australian	1.55— 1.60
Fine Domestic	1.48— 1.52
Thread White Worsted—	
Fine	1.23— 1.28
½ Blood	1.15— 1.18
⅜ Blood	.92— .95
¼ Blood	.75— .80
Low	.65— .75
Thread Colored Worsted—	
Fine	.58— .63
½ Blood	.53— .55
⅜ Blood	.48— .52
¼ Blood	.45— .50
Low	.38— .42
Carpet	.28— .32
Card—	
Fine White	.75— .80
Medium White	.45— .50
Fine Colored	.20— .22
Medium Colored	.10— .12

Reworked Wool

	Cents per lb.
Serges—	
Blue	30—31
Brown	31—32
Green	30—31
Red	35—36
Black	25—26
Knits—	
White	73—76
Red	50—51
Brown	39—40
Merinos—	
Fine light	49—50
Fine dark	21—22
Coarse light	25—26
Worsted Skirted—	
Light	28—30
Blue	27—28
Dark	21—22
Brown	25—26

Men's Wear Clips

Worsted—	
Dark	19—20
Light	28—29
Brown	23—24
Blue	33—34
Black	30—31

Flannels

Blue	19—20
Black	17—18
Green	18—20
Light	27—28
Tan	25—26
Scarlet	31—32

Women's Wear Clips

Serges—	
White	53—56
Blue	28—29
Black	27—28
Brown	30—32
Green	30—31
Light	24—25
Tan	32—33

Old Woolen Rags

Merinos—	
Coarse light	15 —16
Fine light	25½—26½
Fine dark	9½—10
Serges—	
Light	18 —19
Brown	17 —18
Blue	15½—16
Black	12 —12½
Red	21 —22
Green	15 —16
Knit—	
White	55 —56
Black	20 —21
Red	34 —35
Brown	20 —21

Skirted Worsted

Light	10½—11
Black	9 —10
Blue	9 —9½
Dark	7 —7½

"THE BROADBENT"

HYDRO EXTRACTOR

FOR ALL BRANCHES OF THE TEXTILE INDUSTRY

These machines are unquestionably the most solid and substantially constructed extractors on the market

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Write for Catalogues Showing our various types of machines arranged to be driven by Steam, Belt, Electricity or Water Power

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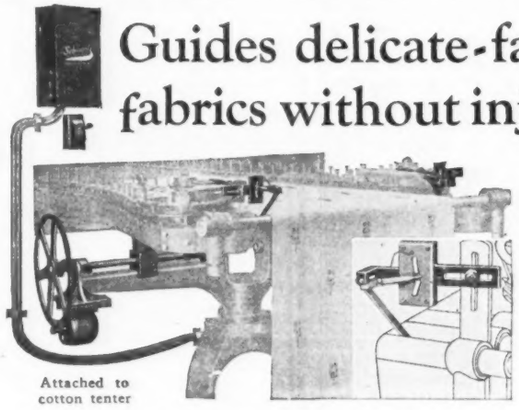

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The Schwartz AUTOMATIC ELECTRIC GUIDER (PATENTED)

PRICE
vs.
COST

There is a world of difference between price and cost. Price is the fixed figure you pay for a material—cost is the value of results produced by use.

It is because they are being judged on the value of results produced that the use of the special purpose

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is becoming so general throughout the textile industry.

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for Machine Dyeing

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for Machine Dyeing

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YET A GREAT IMPROVEMENT OVER PREVIOUS RESULTS."

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You know the importance of these changes for the better! They increase the sales value of your goods. And you may have them too by adjusting your Kier Boil formula to include

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An alkaline detergent, incorporating the remarkable properties of minerals in the colloidal state.

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Clean, Pure, Sparkling Water
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Water softeners for throwsters, scourers, bleachers, dyers and finishers
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RITER-CONLEY COMPANY
General Offices, Pittsburgh, Pa.

DYESTUFFS AND CHEMICALS

Steady Market In Coal Tar Dyes

Textile Demand Shows Some Improvement—Hematin Crystals Rather Easy

No particular interest is evident in the coal tar products market this week. Business in intermediates is slow and stocks are apparently sufficient to meet demands of dye manufacturers who have not as yet experienced any particular expansion in call for dyes from the several branches of the textile industry. The market for crudes and intermediates judged by average price figure is quite stable, the small weekly fluctuations in price of various materials being insufficient to indicate any particular trend. Anthracene production has slowed up and stocks are sufficiently large to prevent any probability of advance in price. Benzene is higher and on a larger demand with the probability that production will be lower owing to the shutting down of a number of coke ovens. Napthalene is stationary, phenol quiet and toluene well sold up and in a firm position. Aniline oil is in routine demand at a price range where it has been for months, 16-17c, the oil for red 38-40c. Aniline salt and anthraquinone are inactive, the salt quoted 24-26c and the paste nominal at 65c.

Mill demand for finished dyestuffs is larger than may be supposed at this time. Consumption of both wool and cotton in January showed an increase and from this may reasonably be assumed that larger consumption of coloring matters occurred. The tendency in the public taste at this time is toward a larger use of colored fabric in producing attractive dress. Competition among distributors of coal tar dyes is sufficiently keen to prevent any advances in price. The American user of dyes is not handicapped in the least by the fact that so large a percentage of these materials are now manufactured in the United States. It has been shown quite recently that a standard line of colors used in the dyeing of leather are cheaper in the United States than on the continent of Europe.

In natural dye stuffs, covering woods and extracts, the market is very firm with an upward tendency. Manufacturing costs are higher owing to the scarcity of woods and limited imports, and any marked expansion in textile demand is likely to reduce stocks to a point where values of remaining stocks would be automatically enhanced. This point, however, has not yet been reached. Hematin crystals which have been produced in large quantities as well as in many qualities are for the first time in several weeks a trifle softer.

Miscellaneous Chemicals

Alumina-Sulp. com.	1½	...
Iron Free	2 —	2¼
Alum. Ammonia Lmp.	3½—	3¾
Potash, Lump	2¾—	3¾
Ammoniac, Sal. white gr.	7½—	8
Bleach powder, per 100 lb. works, carloads	1 90 —	2 30
Blue Stone	4½—	5
Calcium Arsenate	8 —	9
Chlorine, Liq. Cylinders	5½	8
Tanks	4¼—	...
Copperas, ton	10 00 —	17 00
Cream of Tartar	21¼—	21½
Epsom Salts, 100 lb.	1 90 —	2 25
Formaldehyde Spot	9 —	9½
Glauber Salts, 100 lb.	80 —	1 50
Glycerine (C.P.) bbls.	19 —	19½
Cans	20½—	21
Yellow Crude	18 —	18½
Hydrosulphite Conc.	24 —	26
Lead—Brown acetate	14½—	15
White (crystals)	15½—	16
Lime, acetate, 100 lb.	3 00 —	...
Potassium—Bichromate	8¾—	8¾
Chlorate crystals	7 —	9
Permangan, tech	15 —	16
Sodium acetate	6 —	6¼
Bichromate	6⅝—	6¾
Bisulphite, 35%	1 40 —	1 50
Nitrite	8⅝—	9¾
Phosphate	3¼—	3¾
Prussiate yellow	10½—	11
Sulphide, 60% fused	3¾—	4
30% crystals	2½—	2¾
Tartar, emetic, tech	26 —	...
Tin—Crystals	39½—	40
Bichloride, 50 deg.	16 —	16½
Oxide, bbls.	61 —	63
Zinc Dust	10 —	10½

Acids

Acetic, 28% per 100 lb.	3 12 —	3 37
Citric crystals	46 —	...
Formic, 90%	10¾—	11
Lactic, 22%	6 —	6½
Muriatic, 18 deg. per 100 lb. in tank cars	80 —	90
Nitric, 36@42 deg. per 100 lb.	4 25 —	6 00
Oxalic	10½—	11
Sulphuric, 66 deg. per ton in tank cars	14 00 —	15 00
Tartaric	27 —	29

Alkalies

Ammonia, aqua, 26 deg.	6½—	6¾
Borax, Crys., bbls.	5¼—	...
Potash, carbonate, 80-85%	5¾—	6¼
Caustic, 88-92%	7⅛	7¾
Soda Ash, 58% light	1 43 —	2 44
Contract, 100 lb.	1 25 —	1 63
Bicarb. per 100 lbs.	1 90 —	2 25
Caustic, 76% per 100 lb.	3 20 —	3 90
Contract, 100 lb.	3 10 —	...
Sal. 100 lb.	1 10 —	1 25

Natural Dyes and Tannins

Fustic: Crystals	19 —	22
Liquid, 51 deg.	9 —	12
Gambier, liquid	14 —	14½
Hematine, crystals	14 —	19
Hypernic Ext.—51 deg.	13 —	15
Indigo—Madras	... —	...
Logwood Extract, Bq. 51 deg.	7 —	8
Crystals	14 —	16
Osage Orange, Extract, 51 deg.	7 —	7½
Osage Orange Crystals	14 —	14½
Quercitron extract, 51 deg.	6 —	7
Sumac, Ext. dom., ref., 51 deg.	6¼—	7
Extract, stainless	9½—	10
Tannic Acid, tech	35 —	40

Dyestuffs and Intermediates

Alpha Naphthol, ref.	90 —	95
Crude	60 —	65
Alpha Naph'ylamine	35 —	37
Aniline Oil	16 —	17½
Salt	24 —	26
Beta Naphthol, sublimed	55 —	60
Technical	22 —	24
Dimethylaniline	33 —	36
Metaphenylene Diamine	90 —	95
Paranitraniline	60 —	65

Oils and Soaps

Castor Oil, No. 3	16½—	17¾
Olive Oil, denatured, gal.	1 20 —	1 25
Foots	9¼—	9½
Red Oil, lb.	10½—	11¾
Stearic Acid, double pressed	14¼—	14¾
Turkey Red Oil, 50%	10 —	12

Adhesive and Sizing Materials

Albumen, blood domestic	50 —	60
Egg, technical	80 —	nom.
Dextrine—Potato	7¾—	8¼
Corn, bags, 100 lb.	4 72 —	4 99
Do, bbls., 100 lb.	... —	...
Gum, British, 100 lb.	4 97 —	...
Do, bbls.	5 24 —	...
Sago, flour	3½—	4
Starch, corn, 100 lb.	4 02 —	4 12
Do, bbls.	4 29 —	4 39
Do, t. b., bags, 100 lb.	... —	...
Do, bbls.	... —	...
Potato	6 —	6½
Rice	8 —	9
Wheat	6 —	6¼
Tapioca flour	4½—	6½

Coal Tar Dyes

Direct Colors—		
Black (H-acid)	28 —	35
Black Columbia FF	50 —	60
Blue, 2 B	24 —	32
Blue, sky ordinary	60 —	80
Blue, 1 GL	2 00 —	2 50
Blue, 4 GL	2 25 —	2 90
Blue, sky, FF	95 —	1 50
Blue, Fast, RL	1 90 —	...
Blue, Solamine	2 00 —	...
Benzo Azurine	75 —	80
Brown, C	40 —	60
Brown, M	70 —	90
Brown, Congo G	85 —	...
Brown, Congo R	80 —	...
Green, B	75 —	90
Green, G	1 00 —	1 05
Orange, Congo	60 —	...
Orange, Fast S	1 85 —	...
Red, Fast F	90 —	1 00
Red, Congo	40 —	60
Benzo Purpurine 4 B	40 —	60
Benzo Purpurine 10 B	1 25 —	1 50
Scarlet, 4 BA	1 50 —	...
Scarlet, 4 BS	2 10 —	...
Scarlet, 8 BS	2 15 —	...
Scarlet, Diamine B	1 65 —	...
Violet N	1 10 —	1 20
Yellow, Chrysophenine	60 —	1 80
Yellow, Stilbene	90 —	95
Developing Colors—		
Black, B. H	60 —	90
Black Zambesi	1 15 —	...
Bordeaux, Dev	2 50 —	...
Orange, developed	2 50 —	...
Primuline	1 00 —	1 15
Red, Dev. 7 BL	2 50 —	...
Scarlet, Dev	2 50 —	...
Sulphur Colors—		
Black	18 —	30
Blue, cadet	80 —	95
Blue, navy	50 —	60
Brown	20 —	60
Green	55 —	1 50
Green, olive	25 —	50
Yellow	45 —	50
Basic Colors—		
Auramine	90 —	1 60
Bismarck Brown	50 —	60
Chrysoidine	40 —	65
Fuschine crystals	1 50 —	1 75
Malachite green	1 70 —	...
Methylene blue	1 25 —	1 40
Methyl violet	80 —	1 15
Rhodamine B, extra conc	5 50 —	6 00
Safranine	1 45 —	1 60
Victoria Blue B	3 25 —	4 00
Acid Colors—		
Napthol blue blk	40 —	70
Naphth lamine black 4 B	50 —	55
Alizarine saphirol	2 75 —	4 00
Alkali blue	3 25 —	3 50
Indigotine	75 —	1 80
Induline (water soluble)	75 —	80
Soluble Blue	3 00 —	3 75
Sulphoncyanine	70 —	95
Sulphone Blue R	60 —	95
Patent Blue A	2 85 —	...
Rescorcin brown	80 —	90
Guinea green	1 00 —	2 20
Wool green S	70 —	1 70
Orange II	24 —	30
Orange GG crys	60 —	...
Acid fuchsine	80 —	90
Azo eosine G	65 —	82
Crocein scarlet	1 15 —	1 30
Fast red A	75 —	80
Azo yellow	1 35 —	1 40
F. Light Yellow 2 G	2 00 —	...
F. Light Yellow 2 G	3 00 —	3 25
Napthol, yellow	1 35 —	1 40
Chrome Colors—		
Aliz. Black B	1 50 —	...
Diamine Black PV	70 —	...
Chrome Blue Black	48 —	54
Chrome Brown	60 —	1 25
Chrome Green	75 —	1 50
Chrome Yellow	45 —	1 10
Indigo—		
Synthetic 20% paste	15 —	15½
Contracts	14 —	14½

Textile Chemicals Moving Moderately

Alkalis More Active Than Bleaches—Mordanting and Finishing Materials Quiet

The general chemical market is without snap this week nor is there any particular expansion in textile demand for the usual run of materials utilized in the industry. The market is stable with slight advances outnumbering declines. Soda sulphide and soda acetate, potash carbonate and zinc dust all show fractional advances while soda prussiate is off 25c per 100 lbs. In soda ash and caustic soda there is relatively large movement. Bleaching powder however is semi-stagnant, deliveries still being made on low price 1924 contracts which were well below the $1.90 per hundred which is the minimum contract price for 1925. A much better demand is anticipated for bleaching powder as the finishing end of the cotton industry shows signs of larger development.

Soda bichromate which has largely displaced the potash compound in mordanting operations in wool dyeing is holding very steady with contract withdrawals on the increase. The material is closely held at 6⅝c a pound. Potash bichromate is 2c a pound higher and is in moderate demand. Aluminum chloride which finds large use in carbonizing of wool is rather stagnant under unsatisfactory conditions in the raw wool market. Antimony salt is in slow demand by cotton dyers and is quoted 22-23c per pound. Copperas is steady at $13-$15 per ton in bags; soda sulphite powder is unchanged and rather inactive at $3.75-$4.25 per hundred pounds. Zinc chloride is firmer with larger sales, the fused quoted 6-6½c and the granular 7-7½c per pound.

The general acid group is remarkably stable judged by average figure covering a number of these commodities. In the organic acids lactic is in good demand, oxalic is moving more freely while citric and tartaric are quiet. In mineral acids sulphuric is in excellent demand and the market much firmer. Price still holds to an established level of $14-$15 per ton for the 66 degree material. Muriatic and nitric are unchanged for the week, encountering moderate demand.

Dye and Chemical Notes

Seven new leaflets recently issued by the Newport Chemical Works for their binder describe two acid blues, two golden oranges, a yellow, a direct green and a brown. The blue shades are Newport Fast Acid Blue BGA and Fast Acid Blue RXO; the

Write for Free Sample

We consider D-SIZ-O a "better de-sizing agent."
But we don't ask you to believe it until you have proved it yourself.
We therefore offer to send you a liberal sample for trial.
Compare the results and the prices.
Write.

HAZLETON SYRUP CO., Hazleton, Pa.

D-SIZ-O

"THE 250° DIASTATIC MALT"

Sturtevant Drying Equipment

For Straight Away and Return Tenters

Sturtevant Drying Equipment increases tenter production by uniformly and rapidly drying the cloth as it passes over the frames.

Sturtevant Drying Equipment insures maximum speed in drying consistent with the mechanical strength of the frame, and the weight and quality of the cloth.

A Sturtevant Industrial Drying engineer will be pleased to call and discuss your drying problem with you.

Sturtevant PUTS AIR TO WORK

B. F. STURTEVANT CO.
Hyde Park, Boston, Mass.

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NOTTINGHAM CURD
TALLOW CHIP No. 2 and No. 3 Chip SOAP

POTASH FIG SOAPS
for Woolens and Worsteds made with
Red Oil
Olive Oil
Amber Oil
Olive Foots

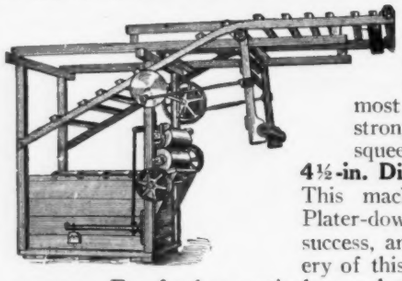
TEXTILE SOAPS
MADE IN PAWTUCKET, R.I.
J.O. DRAPER CO.

Palm Oil
Curd SOAP
Olive SOAP
Chips or Bars
Soap Powder
For Mill Floors

Established 1860. Incorporated 1905

LET US SUPPLY YOU

THE RELIANCE WARP DYEING MACHINE



Special attention is called to this improved **Warp Dyeing Machine.** This machine is built in the most substantial manner, being strongly geared with good, heavy squeeze rolls, and having **Seven 4½-in. Diameter Brass Rolls.** This machine, with our improved Plater-down has met with marvelous success, and parties desiring machinery of this class can make no mistake on ours. For further particulars and prices, address

RELIANCE MACHINE WORKS
Hedge and Plum Streets, Frankford, Phila.

Einstein has quite possibly upset the accepted theories of matter but the conscientious expert service back of WARREN SOAP is more firmly established than ever.

Warren Soap Manufacturing Company
77 Summer Street, Boston, Mass.
Established 1870 Incorporated 1890

"SHAFCO" Centrifugal Pumps.

For pumping "size" acid or clear water—up to 200 foot heads.

BRIGGS-SHAFFNER COMPANY
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Dyestuffs

252 Congress Street Boston, Mass.

PURE WATER

Filters for all Purposes
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ROBERTS FILTER MFG. CO.
DARBY, PA.

Everything for Textile Printers
And for Bleachers, Dyers and Finishers
Engraving Machinery and Supplies
Chas. A. Johnson & Co., 25 Walker Street, New York City
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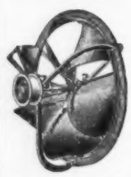


This is the fan that dries the cloth in the leading Textile Mills

Use one—it pays

A. HUN BERRY FAN CO.
28 Binford St. Boston, Mass.

Dyestuffs and Chemicals—Continued

oranges, Newport Anthrene Golden Orange G and Anthrene Golden Orange RRT; the yellow, Newport Direct Pure Yellow ML; the green, Newport Direct Green B, and the Brown, Newport Direct Brown CR.

Both acid blues are said to be of special interest because of their excellent fastness to light, perspiration, washing and salt water; both are described as having excellent level dyeing properties, as particularly suitable for use in combinations and as excellent colors for natural silk yarns and pieces. Neither of these blues discharge.

Both Newport Anthrene Golden Orange G and Golden Orange RRT are described as very level dyeing and as useful in combination with other vat dyestuffs or the production of tan and brown shades. Both oranges are said to be very fast to chlorine and to possess excellent fastness to boiling soap, light, rubbing, steaming and cross-dyeing. These golden oranges are suitable for dyeing pure silk and Viscose, Chardonnet and Cuprammonium artificial silks, and both are said to be excellent for cotton and silk printing.

Newport Direct Pure Yellow ML finds its chief interest for producing bright yellow shades and in combination with direct blues for very bright green shades. It is described as a good union color for mixtures of either cotton and silk or cotton and wool, the shade being but slightly redder and duller on the animal fiber. While it stains only slightly Celanese and Lustron it is suitable for dyeing Viscose, Chardonnet and Cuprammonium.

Newport Direct Green B is suitable for all classes of cotton material and is described as a good union dyeing color for wool and cotton materials when dyed by the union method. In silk and cotton unions the silk is dyed yellower and stronger. The color is said to be suitable for pure silks, Viscose, Chardonnet and Cuprammonium artificial silks, while Lustron and Celanese are only slightly stained. Wool may be dyed either acid or neutral, but has no particular interest. Good fastness to light for this class of dyestuffs is claimed for this green, as well as fastness to washing. Its fastness to rubbing and steaming is said to be excellent and to weak acids very good.

Newport Direct Brown CR is described as having extensive use for padding and jig work because of its excellent leveling and slow exhausting qualities. It is said to dye well on pure silk and also on Viscose, Chardonnet and Cuprammonium. Its combinations of artificial silk and cotton, both fibers are dyed about alike from cold baths. At higher temperature the artificial silk will be dyed heavier. Wool and cotton unions dye well from boiling baths, and silk and cotton unions are dyed a little stronger on the silk. This color will discharge white.

The Ciba Co., Inc., has removed its Providence, R. I., office and warehouse to larger and more convenient quarters at 61 Peck St., with freight entrance at 140 Orange St.

The Carbic Color & Chemical Co., Inc., has opened an office in Providence, R. I., located in Rooms 706 and 707, Union Trust Co. Bldg., Westminster and Dorrance Streets. Herbert Kuhl has been appointed manager.

Lectures at N. C. College

Dr. Louis J. Matos, textile chemist for the National Aniline & Chemical Co., New York City, addressed the students and faculty of the North Carolina State College Textile Department. The subject of the lecture was "Warp Dyeing," the history of which was traced up to the present methods used in modern mills. During the present school year lectures have been delivered to the textile students by the following well known men in the textile industry. J. H. Haddock, Efficiency Engineer, Erwin Cotton Mills, Durham, N. C.; Charles H. Stone, Grasselli Chemical Co., Charlotte, N. C.; L. R. Gilbert, superintendent, Caraleigh Cotton Mills, Raleigh, N. C.; A. C. Stohn of the A. C. Stohn Co., Boston, Mass.; A. E. Snyder of the firm of Percy Legge & Co., wool merchants, Boston, Mass. Mr. Synder is the grand president of the Phi Psi fraternity which is the largest textile fraternity in America.

Men's Wear Trade Notes

(*Continued from page 125*)

30 e.o.m., and a line of suitings and topcoatings at $2.25. net, 30 e.o.m.

G. A. Hagstrom & Co. have opened lines for fall as follows: Almont Worsted Co., $2.65 to $3.75; Dareaubine Mfg. Co., $2.85 to $4.20; Mystic Worsted Mills, Inc., $2.62½ to $4.25, net 30 e.o.m.

Shelbourne Mills have opened lines of worsted trouserings for fall at $1.85 net and $3.25 net; also, worsted suitings at $2.77½ to $3.45 net.

H. W. T. Mali & Co. have opened for fall Olympic piece dyes, fancy worsteds, skein dyes, mixtures and cheviots, at $2.67½ to $4.75 net.

Brighton Worsted Co. have opened fine worsteds for fall, in 14 and 15-oz. suitings, coverts, and gabardines, for the suiting and topcoat trades at $2.75 to $3.75.

Windsor Mfg. Co., Inc. have opened ranges of fancy worsted suitings, 13-13½oz., as follows: Range 74, $3.65 to $3.75; range 75, from $3.45 to $3.55, and range 76, at $3.30 to $3.40.

Kingsley Department of S. Stein & Co. is showing fall lines of "Silver-King" English sports suitings at $2.27½ to $2.87½, net, and "Craig-Moor" 16½-17½ oz. English topcoating at $3.25 net.

THE PERKINS BIN PILER

BIDWELL PATENTS

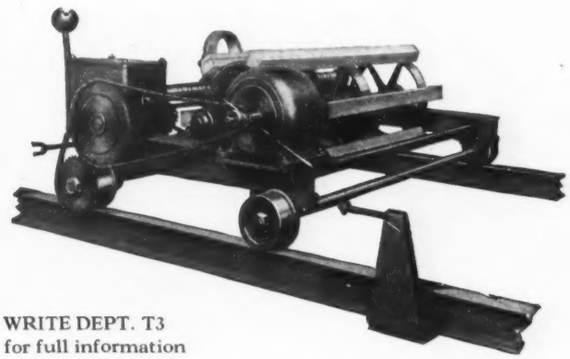
(formerly known as THE PERKINS CLOTH PILER) is

NEEDED

in Every Bleachery
in Every Dyehouse

because

1. It assures more uniform processing.
2. It eliminates all hand labor in piling or plaiting cloth into bins, tanks or vats.
3. There's no snarling or knotting.



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B. F. PERKINS & SON, INC.
Holyoke, Mass., U. S. A.

Forty Four Fulling

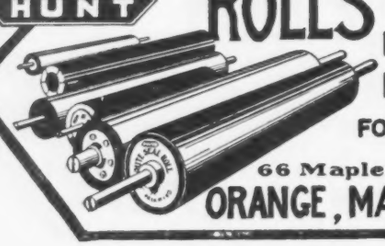
The Most Highly Concentrated and Efficient Fulling Soap Ever Produced

Only 80% as much is needed to make up a fulling solution of the required consistency and lubricating value as of any other Soap made. It combines the quick fulling property of a heavy bodied Soap with a remarkable ease of discharge in washing; goods scour cleaner in less time at less cost of steam and water, allowing brighter colors and better handle; prevents flocks and increases capacity through saving in time.

THE HOLBROOK MFG. CO.

Jersey City, N. J.

RODNEY HUNT



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FOR ANY MACHINE

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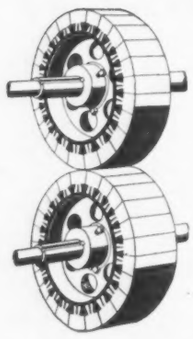


FULLING MILL ROLLS

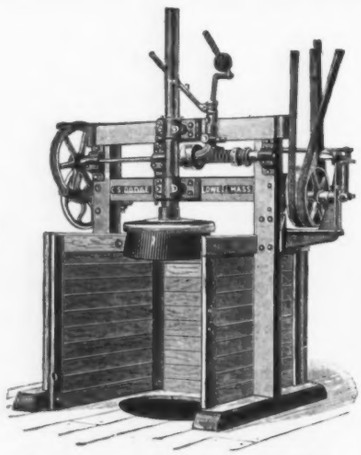
Built of several different woods—

All specially seasoned.

LAGS and ROLLS for any make of machine.

RODNEY HUNT

Get 20 to 40 lbs. More Wool Into Your Bags



You will be surprised at the savings you can make in bags, storage, cartage and freight. The

Dodge Wool-Bagging Machine

will easily enable you to get 20 to 40 lbs. more stock into each bag. This method of bagging is also much quicker than by hand.

The machine is entirely automatic and requires no watching. It is quickly adjusted to the desired pressure and exerts the same pressure on all bags, making them all absolutely uniform in weight when filled.

Install a Dodge Wool-Bagger on trial. We'll leave the machine to sell itself.

FOLDER ON REQUEST

Pickers, Bagging Machines and Picker Pins. Cylinder Coverings a Specialty.

High Carbon Steel Wire Drawn to Order.

C. S. DODGE - LOWELL, MASS.

Canadian Agent: W. J. Westaway Co., Ltd., Hamilton, Ont. or Montreal, Que.

Jan. Wool Consumption

WASHINGTON, D. C.—The Department of Commerce announces the following statistics with regard to the consumption of wool, by manufacturers in the United States during the month of January, based on reports received from 561 manufacturers. This is exclusive of 23 who failed to report the consumption of wool for this month. The total quantity of wool entering into manufacture during January, 1925, as reported, was 44,541,159 lbs. as compared with 44,266,297 lbs. in December, 1924, and 46,197,969 lbs. for January, 1924. The consumption shown for January, 1925, included 36,379,394 lbs. of wool reported as in the grease; 6,259,655 lbs. of scoured wool; and 1,902,110 lbs. of pulled wool. Reduced to a grease equivalent these quantities would amount to 51,434,850 lbs. The grease equivalent for January, 1924 was 53,845,024 lbs. and for December, 1924, 51,097,945 lbs. The monthly consumption of wool (pounds) in grease equivalent for manufacturers reporting for 1924 was as follows: January, 53,845,024; February, 50,632,884; March, 47,630,291; April, 44,361,464; May, 36,507,484; June, 30,972,041; July, 33,777,635; August, 40,063,717; September, 45,637,549; October, 54,854,103; November, 48,380,315, and for December, 51,097,945. Of the total quantity of wool used by manufacturers during this month of January, 1925, 21,638,889 lbs., or 48.6%, was domestic wool; and 22,902,270 lbs., or 51.4%, was foreign wool. The following tables show the quantities of wool consumed, classified with comparative figures.

JANUARY CONSUMPTION OF WOOL BY GEOGRAPHIC SECTIONS

Section	Total	Grease equivalent
Total	44,541,159	51,434,850
New England	21,647,673	25,385,497
Middle Atlantic	19,632,040	21,373,733
Pacific Coast	505,002	787,006
Other sections	2,756,444	3,888,615

WOOL CONSUMPTION BY CLASS
(All quantities in pounds)

Class and Grade	Total for January	Total January to December inclusive	
	1925	1924	1923
TOTAL	44,541,159	460,401,765	550,878,038
Domestic	21,638,889	230,323,207	194,906,724
Foreign	22,902,270	230,078,558	355,971,314
Combing*	24,212,778	250,351,298	301,830,537
Clothing*	7,555,857	86,546,566	99,383,953
FINE, total	10,619,409	109,004,274	108,834,633
½-BLOOD, total	5,550,868	57,440,128	62,395,227
⅜-BLOOD, total	6,164,624	68,437,568	88,496,348
¼-BLOOD, total	7,011,592	77,955,149	118,442,204
LOW ¼-BLOOD†	1,651,210	15,582,523	7,438,782
COMMON, total‡	198,807	1,990,904	905,532
BRAID, total‡	20,859	738,435	463,583
LINCOLN, total§	551,266	5,748,883	14,238,181
CARPET, total§	12,772,524	123,503,901	149,663,548
Total, reduced to grease equiv.**	51,434,850	537,760,452	641,607,252
Domestic	26,205,577	281,964,298	249,919,652
Foreign	25,229,373	255,796,154	391,687,600

*Exclusive of carpet wools. †Figures previous to July, 1923 include "Common" and "Braid." ‡All domestic. §All foreign. **In computing the grease equivalent, 1 pound of scoured wool is considered equivalent to 2 pounds in the grease; and 1 pound of pulled, to 1½ pounds in the grease.

Prison Labor Survey

To Be Made Through Commerce Department by Research Engineer

WASHINGTON, D. C.—The Commerce Department's investigation into the extent and effect of the mingling of prison-made products on the open market in competition with the products of free labor will be made by H. B. Gill, a research engineer, engaged by the Department for the purpose. The inquiry probably will extend over a period of several months as Mr. Gill contemplates doing considerable field work both at the state penal institutions and in the industries that are principally affected. He commenced work on Mar. 2. Mr. Gill is a graduate and a former member of the faculty of the Harvard School of Business Administration.

The investigation by the Commerce Department is the outcome of a conference in Washington last December when the textile, garment and other industries appealed to Secretary Hoover to do what he could to help them to find a remedy for public discrimination against the commercial products because of the low prices at which the prison-made products are sold.

A comprehensive report on the industrial features of convict labor was published this week by the Department of Labor and, relating particularly to the year 1923, constitutes the fifth survey of convict labor that the Department has made.

The textile and related products produced by the convict labor of state institutions during the period of one year, as compiled in the report, were as follows:

	Number	Value
Clothing:		
Aprons	988,096	$329,365
Aprons, bungalow	1,367,963	854,976
Auto suits	43,758	61,051
Children's play suits	919,234	1,149,030
Garments, misc.	355,260	277,742
Overalls and jumpers	1,886,961	1,975,579
Pants (work)	3,037,715	3,349,805
Shirts (chambray)	864,537	860,279
Shirts (flannel)	191,176	172,447
Shirts (work)	13,871,326	11,756,986
Tailored—pieces	642,121	1,140,264
Knit goods:		
Hosiery—doz.	711,230	1,194,727
Mittens—doz.	521	1,042
Underwear—doz.	51,682	283,228
Cotton textiles—yds.	7,891,603	1,284,244
Linens	.....	857,913
Handkerchiefs	90,000	15,000
Flags	3,762	16,197
Twine and rope—lb.	61,615,683	5,588,872

Compensation Rate Increase

Bill Introduced in Rhode Island Sponsored by Gov. Pothier

PROVIDENCE, R. I.—Drastic increases in the compensation to be paid to persons injured while engaged in industrial employment are proposed in a bill sponsored by Governor Aram J. Pothier of Rhode Island and bearing the name of Senator Harry A. Sanderson. The measure also sets up an industrial board with full power to enforce the law. This commission in some respects is patterned after that of Massachusetts but in addition it is to supervise the departments of the factory and the boiler inspectors and several other boards directly connected with industry.

Larger amounts are provided for

most injuries, for total disability incurred while in employment and for death and the periods of payment generally are increased in each instance, in case of accident and temporary disability.

A second bill, introduced by a minority member in the House stresses big increases in payments, both maximum and minimum rather than regulation. Supervision of the present law is in the hands of the Labor Commissioner who, although possessed of the power to approve agreements has no other authority except that of unofficial negotiation in case of a disagreement between the injured and the insurance company.

Under the present law the burden of proof is placed on the employe in case of a dispute as to whether or not compensation should be continued for a longer period. Under the law which the Governor has told the Legislature it must pass at this session the industrial board has the power to require payment of compensation until the courts rule otherwise, and compensation stops only when adjudication is made against the injured employe.

World Wool Supply

(*Continued from page 72*)

his estimate of consumption for 1921 as 2,650,000,000 lbs. The official figures for that year are 500,000,000 lbs. less. He then goes on to give the figures for the three years 1921, 1922 and 1923. They are as follows:

1921	2,650,000,000 lbs.
1922	3,000,000,000 lbs.
1923	2,850,000,000 lbs.

A total of 8,500,000,000 lbs. The official figures of actual consumption after allowing 400,000,000 lbs. for restocking of Europe, are approximately 7,500,000,000 lbs. In other words, based on actual statistics, plus an allowance for restocking, Sir Arthur Goldfinch has apparently over-estimated the world's consumption of wool over these three years by 1,000,000,000 lbs.

Fair, but Careless

There is one thing that I want to make very clear. I am convinced that Sir Arthur Goldfinch in using estimates was at all times seeking to be fair, and to have them reflect the actual situation; that he has not at any time intentionally misquoted any figures as to consumption. But he was careless in not confirming by actual figures the consumption of such countries as the United States and Spain; and these were accessible to him at all times.

While Sir Arthur Goldfinch's bullish attitude concerning the wool outlook has been recognized on both sides of the water, any statement that he has made has notwithstanding always received, thoughtful and respectful consideration, as it should.

His handling of the Bawra's stocks was a masterly piece of business. But on the other hand, his eminence as a wool authority should not deter us from a critical examination of estimates when he uses them instead of official figures.

What Statistics Show

The following table shows the imports of wool of six countries on the Continent of Europe; all with the exceptions of Italy were practically shut off from wool supplies during the period of the war.

And this table is prepared for the purpose of showing the restocking movement necessary for the Continent.

RAW WOOL—IMPORTS LESS EXPORTS
(000 Omitted)

	1920	1921	Average	1922	1923	Average
Germany	114,263	210,759	162,510	405,331	274,199	339,766
France	307,394	280,606	294,000	588,017	497,764	542,891
Belgium	117,892	62,622	90,257	118,822	111,998	115,410
Italy	59,257	38,687	48,972	79,575	71,510	75,542
Czecho-Slovakia	28,717	37,171	32,944	55,890	66,062	60,976
Poland	20,000*	22,918	21,459	64,274	46,176	55,224
	647,523	662,763	655,142	1,311,909	1,067,708	1,189,808

*Estimated.

The next table is a comparison of post-war consumption for the years 1921, 1922 and 1923 as against pre-war consumption, for the years 1909–1913, by all countries where comparable figures are obtainable. Figures are, however, given here for in excess of 90% of the world's consumption.

In this table I have included the amount of wool that Russia took in pre-war period from the rest of the world, less her exports and re-exports to the world.

APPARENT CONSUMPTION OF RAW WOOL
(Comparison of Pre-War and Post-War periods where comparisons can be made.)
(000 omitted.)

	Average 1909-1913	Average 1921-1922	1923
United Kingdom	628,287	574,814	
United States	535,703	620,220	
Germany	483,000	†362,150	
France	552,000	497,108	
Belgium	109,000	98,766	
Canada	18,710	34,510	
Italy	81,082	118,969	
Netherlands	9,185	14,793	
Japan	10,000	51,492	
Russia	82,184	.....	
Spain	45,735	79,202	
	2,554,866	2,452,033	
Deduct average (2 years) for restocking Continent		133,333	
		2,318,700	

Average consumption all wools, 90¾%.
Average consumption clothing wools, 89¾%.
United States increased consumption carpet wools during period 1921-1923 averaged 26,000,000.
†—First four months of 1921 estimated at same rate as for 1920.

After I had proceeded in my study far enough to make an estimate of the world's consumption, based on a comparison with pre-war, I decided that I ought to have a way of checking the figures back, and hit upon the plan of taking the production for the years 1921, 1922 and 1923, the retention of wool by all the countries of the world for the same three years, and make adjustments covering the decrease in the United States stocks and an allowance for the restocking of the Continent.

This is shown in the following table:

COMPARISON OF WOOL PRODUCTION WITH WOOL RETENTION
(000 omitted.)

	Production	Retention
1921	2,493,804	2,135,536
1922	2,475,928	3,143,514
1923	2,509,471	2,526,148
	7,479,203	7,805,198
Add for decrease in stocks in U. S. during period	91,305	7,396,503
Deduct for restocking the Continent		400,000
Total		7,496,503

Production figures do not include Russia and Russia in Asia.
Re'eption figures do not include Russia.
Production figures published by U. S. Department of Commerce changed as follows: Australia and Tasmania for 1923 from 490,000,000 to 560,581,000; New Zealand for 1923 from 180,000,000 to 208,879,000; Spain for 1921 from 165,547,000 to 88,000,000.

The final table gives the retentions of wool (apparent consumption) for the entire world for the years 1921, 1922 and 1923. The figures are actual for about 97% of the consumption. Austria's figures are a very close approximation, as there were just one or two uncertainties in the figures that would not permit me to report them as actual.

Apparent Consumption of Raw Wool

	1921	1922	1923	Average
United Kingdom	525,167	771,584	427,691	574,814
United States	588,696	636,355	636,637	620,229
France	329,106	626,297	535,984	497,108
Germany	275,219	471,181	340,041	362,150
Belgium	63,827	119,647	112,823	98,766
Canada	33,098	36,615	33,817	34,510
Italy	88,599	139,197	130,122	118,969
Netherlands	15,352	16,019	13,008	14,793
Japan	29,884	66,935	57,647	51,492
Spain	83,841	79,097	74,668	79,202
Czecho-Slovakia	37,171	55,890	66,062	53,041
Austria (1)	17,000	14,300	18,000	16,500
Poland	26,918	68,267	50,567	48,584
All other countries in Europe (2)	30,184	44,000	35,640	36,608
All other countries elsewhere (2)	16,464	24,000	19,440	19,968
Totals	2,160,536	3,168,514	2,561,148	2,626,734
Deduct for duplication (3)	25,000	25,000	25,000	25,000
Totals	2,135,536	3,142,514	2,526,148	2,601,734
Average apparent consumption			2,601,734	
Add average reduction United States stocks			30,435	2,632,169
Deduct average (1922 and 1923) for restocking Europe				133,333
Net average apparent consumption				2,498,836

(1) Estimated.
(2) Figures for 1922 taken from paper on "Wool Supplies and Consumption," by Sir Arthur Goldfinch, published in the July, 1923, Fulletin of the National Association of Wool Manufacturers. Proportionate figures are used for years 1921 and 1923.
(3) While a conservative allowance (1%) has been made for duplications, it is well to bear in mind that this compilation does not include any deduction for the average excess of approximately 26 million pounds of carpet wools used yearly in the United States alone during the years 1921, 1922, and 1923.

Heavy Bourse Trading

(*Continued from page 111*)

basis. Cracks through a good part of this period were well under $6.00 a pound and got as low as $5.50. Many large broadsilk and hosiery mills which could be named, believed that prices would be higher later on and placed contracts calling for deliveries through the months of December, January, and in some cases up till May. Obviously the large importers had to gamble with them for they could not buy from the reelers the thousands of bales necessary for these late deliveries. To protect themselves in part, the importers accepting these large contracts which ranged from 1,000 to 2,000 bales, covered as much as they could on the Bourse in Yokohama. This accounts for the unusual strength of the future deliveries through this period which consistently sold as high as 100 Yen above the spot month.

When it came time, however, to make the actual deliveries the importer would obviously remove the hedge by selling on the Bourse and buy the actual silk in the open market. If he bought first and then sold, it is evident that he would pay a good stiff price and then see the Bourse decline under the weight of his own selling. The better thing to do would be to start selling, get good prices for as much as possible, and then depress the market by continuing the selling. At the right time after a week or ten days of quiet in the export market due to the declining Bourse, it would be possible to cover several thousand bales and make a profit into the bargain. The action of the Bourse and the open market in the closing days of February with a significant revival in buying to begin March, indicate or at least seem to indicate that such is the sum and substance of the fluctuations in the last two weeks.

Raw Cotton Market

(*Continued from page 139*)

thrown on new crop prospects. The Giles Bureau in a preliminary statement says present indications point to an increase of 3.6 per cent in acreage. A prominent Alabama spot firm, on the other hand, say no increase is likely. A falling off has been reported in sales of fertilizer as compared with last year but the trade is awaiting detailed reports on fertilizer sales and boll weevil emergence later in the month.

The following table will show Wednesday's closing spot quotations in the leading spot markets of the country, with the usual comparisons:

New York, March 4, 1925.

Market	Feb. 25	Mar. 4	Ch'ge	Last year	Sales
Galveston	25.70	26.35	+ 65	28.70	20,006
New Orleans	25.25	25.80	+ 55	28.88	13,726
Mobile	25.00	25.50	+ 50	28.50	1,907
Savannah	25.25	25.92	+ 67	28.15	6,159
Norfolk	25.38	25.88	+ 50	28.44	4,643
New York	25.36	26.05	+ 70	28.40	2,250
Augusta	25.31	25.75	+ 44	28.63	9,813
Memphis	25.00	26.00	+100	29.50	13,900
St. Louis	24.50	25.75	+ 125	29.00	.....
Houston	25.80	26.60	+ 80	28.50	37,182
Dallas	25.26	25.90	+ 65	27.85	19,560

The following differences on and off middlings are given as compiled from the reports received by the New York Cotton Exchange. The cotton grades marked** are not delivered on contract:

	Dallas	Memphis	Montgomery	Augusta	Average
WHITE GRADES					
M. E	.90†	1.25†	.88†	1.00†	1.01†
††S. G. M.	.75†	1.00†	.63†	.75†	.77†
G. M.	.63†	.75†	.38†	.50†	.55†
S. M.	.38†	.50†	.26†	.38†	.34†
S. L. M.	.75*	.50*	.75*	.75*	.69*
L. M.	1.75*	1.25*	1.75*	1.50*	1.42*
**S. G. O.	3.00*	2.25*	2.75*	2.50*	2.47*
**G. O.	4.25*	4.00*	3.75*	3.50*	3.57*
YELLOW TINGED					
G. M.	.50*	.25*	.25*	.50*	.34*
S. M.	.90*	.50*	.75*	.63*	.90*
**M.	1.50*	1.00*	1.00*	.75*	1.48*
**S. L. M.	2.75*	1.50*	2.75*	1.50*	2.44*
**L. M.	4.00*	2.25*	3.75*	2.50*	3.53*
YELLOW STAINED					
G. M.	1.40*	1.75*	1.50*	1.50*	1.61*
**S. M.	1.65*	2.00*	2.00*	1.63*	2.11*
**M.	2.25*	2.50*	2.75*	2.00*	2.85*
BLUE STAINED					
**G. M.	1.75*	1.75*	1.25*	1.38*	1.44*
**S. M.	2.00*	3.00*	1.75*	1.89*	1.85*
**M.	2.75*	3.00*	2.50*	3.50*	2.68*

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